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Catalog 2024-2025

The Acalog Catalog is the definitive source for graduation requirements, outlining the courses and programs students will need to complete to earn their degrees. The catalog of the University is the document of authority for all students. The information in the catalog supersedes that issued by any other unit if there is a conflict between the two.

Mission Statement

- University of Wyoming Mission Statement
- University of Wyoming Non-Discrimination Statement
- University Communication Statement

University of Wyoming Mission Statement

We honor our heritage as the state's flagship and land-grant university by providing accessible and affordable higher education of the highest quality; rigorous scholarship; the communication and application of knowledge; economic and community development; and responsible stewardship of our cultural, historical and natural resources.

In the exercise of our primary mission to promote learning, we seek to provide academic and co-curricular opportunities that will:

- Graduate students who have experienced the frontiers of scholarship and creative activity and who are prepared for the complexities of an interdependent world;
- Cultivate a community of learning energized by collaborative work among students, faculty, staff and external partners.

- Nurture an environment that values and manifests diversity, internationalization, free expression, academic freedom, personal integrity and mutual respect; and
- Promote opportunities for personal health and growth, physical health, athletic competition and leadership development for all members of the university community.

University of Wyoming Non-Discrimination Statement

The University of Wyoming is committed to equal opportunity for all persons in all facets of the University's operations and is an Equal Opportunity/Affirmative Action Employer. The University will provide all applicants for admission or employment, and all University employees and students with equal opportunity without regard to race, gender, religion, color, national origin, disability, age, protected veteran status, sexual orientation, gender identity, genetic information, creed, ancestry, political belief, pregnancy, or any other applicable protected category or participation in any protected activity. The University's nondiscrimination policy applies to all matters relating to its education programs and activities including recruiting, hiring, training, compensation, benefits, promotions, demotions, transfers, and all other terms and conditions of employment.

The University is also committed to complying with all applicable state and federal statutes, regulations, and Executive Orders related to equal opportunity and has an audit and reporting system to facilitate compliance.

It is the continuing, active, individual responsibility of each principal Administrative Officer, Dean, Department and Division Head or Supervisor to assure that the University's Equal Employment Opportunity policy is followed when making decisions relating to education, recruiting, hiring, training, or promoting qualified persons.

Retaliating against any individual for filing a complaint or participating in an investigation in good faith is strictly prohibited by law and University policy. Persons who violate this policy may be subject to disciplinary action and/or sanctions. Retaliation exists when an individual harasses, intimidates, or takes other adverse actions against a person because of the person's participation in an investigation of discrimination or sexual misconduct or their support of someone involved in an investigation of discrimination or sexual misconduct.

For more information, please see UW Regulation 4-1 (Equal Education and Employment Opportunity).

University Communication Statement

The University of Wyoming assigned email account shall be one of the official means of communication with all students, faculty, and staff. All community members are responsible for all information sent to them via their University assigned email account. Members who choose to manually forward mail from their University email accounts are responsible for ensuring that all information, including attachments, is transmitted in its entirety to the preferred account.

All faculty, staff, and students are required to maintain an @uwyo.edu computer account. This account provides both an online identification key and a University official email address. The University sends much of its correspondence solely through email. This includes, but is not limited to, policy announcements, student account billing notifications, emergency notices, meeting and event notifications, course syllabi and requirements, and correspondence between faculty, staff, and students. Such correspondence is mailed only to the University official email address.

Faculty, staff, and students are expected to check their email on a frequent and consistent basis in order to stay current with University-related communications.

Faculty, staff, and students have the responsibility to recognize that certain communications may be time-critical.

Administration

- The Trustees of the University of Wyoming
- University Officers
- Administrative Officers
- Academic Officers
- Other Academic Officers

The Trustees of the University of Wyoming

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Members

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2015/2021	John McKinley, Cheyenne	2027
2015/2021	Michelle Sullivan, Sheridan	2027
2017	Kermit Brown, Laramie	2029
2021	Elizabeth Greenwood, Pinedale	2027
2019	Brad Bonner, Cody	2025
2017	David Fall, Gillette	2029
2018	Laura Schmid-Pizzatto, Rock Springs	2029
2017/2019	Macey Moore, Douglas	2025
2021	Carol Linton, Jackson	2027
2013/2019	Dave True, Casper	2025
2019	Brad LaCroix, Newcastle	2025

2023	Jim Mathis	2029

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Saber Smith, President of the Associated Students of the University of Wyoming
Megan Degenfelder, State Superintendent of Public Instruction
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Ryan O'Neil	AVP and Dean of Students

Academic Affairs:

Shelley Dodd	Director, Admissions
Richard Miller	Director, Academic, Career, Exploratory Services
April Heaney	Director, LeaRN Programs
Lane Buchanan	Interim University Registrar, Office of the Registrar
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Anna Terfehr	Director, Scholarships and Financial Aid
Wendi Vanlandingham	Director, Transfer Relations

Student Affairs:

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Julie Hill	Associate Dean/Professor, College of Law

Academic Officers

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Christine Wade	Associate Dean and Director, Academic and Student Programs
Mandy Marney	Associate Dean and Director, UW Extension

Eric Webster	Associate Dean, Agricultural Experiment Station
Benjamin Rashford	Head, Agricultural and Applied Economics
Bledar Bisha	Head, Animal Science
Jill Keith	Head, Family and Consumer Sciences
	Director, Microbiology Program
Andrew Kniss	Head, Plant Sciences
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Jonathan Fox	Head, Veterinary Sciences
Alexandra Brower	Director, Wyoming State Veterinary Laboratory
Jonathan Prather	Head, Life Sciences
S. Scott Seville	Head, Zoology and Physiology
Brent Ewers	Head, Botany
Randall Violett	Head, Ranch Management and Agricultural Leadership
Jay Gatlin	Head, Molecular Biology

J. Scott Turpen	**Dean, College of Arts and Sciences**
Karen Bartsch Estes	Associate Dean
Susan Aronstein	Associate Dean
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Stephen Dillion	Director, School of Culture, Gender, and Social Justice
Kelly Kinney	Head, English
Jeffrey Means	Head, History
Joy Landeira	Head, Modern and Classical Languages

Ben Markley	Head, Music
Robert Colter	Head, Philosophy and Religious Studies
Stephanie Anderson	Director, School of Politics, Public Affairs, and International Studies
Sean McCrea	Head, Psychology
Christie Zimmerman	Head, Theatre and Dance

Scott Beaulier	**Dean, College of Business**
Ronn Smith	Senior Associate Dean
Ben Cook	Senior Assistant Dean
Anne Alexander	Assistant Dean
Mitchell Oler	Chair, Accounting and Finance
Alexandre Skiba	Chair, Economics
Todd Cherry	Director, Economics Graduate Programs
Todd Cherry	Director, Economics Graduate Programs
Ben Cook	Director, MBA Program
Linda Price	Director, Marketing Ph.D. Program

Jenna M. Shim	**Interim Dean John P. "Jack" Ellbogen Dean, College of Education**
Peter William Moran	Associate Dean, Graduate Programs
Alan R. Buss	Assistant Dean for Assessment, Data, and Accreditation
Mark Perkins	Assistant Dean for Student Success
Christi Thompson	Director, School of Counseling, Leadership, Advocacy & Design
Courtney Ann McKim	Director, School of Teacher Education
Scott A. Cahmberlin	Assistant Dean for Assessment, Data, and Accreditation
Colby Gull	Director, Wyoming School/ University Partnership
Brooke Fergon	Principal, UW Lab School

Cameron Wright	**Dean, College of Engineering and Physical Sciences**
David Bagley	Associate Dean
Daniel Dale	Associate Dean
David Mukai	Associate Dean
Saman Aryana	Head, Chemical Engineering and Biomedical Engineering
Brian Leonard	Head, Chemistry
Anthony Denzer	Head, Civil and Architectural Engineering and Construction Management
Bryan Shader	Head, Electrical Engineering and Computer Science
Vamegh Rasouli	Head, Energy and Petroleum Engineering
Mark Clementz	Head Geology and Geophysics
Jason Williford	Head, Mathematics and Statistics
Ray Fertig	Head, Mechanical Engineerings
Jinke Tang	Head, Physics and Astronomy

Michelle Hilaire	**Interim Dean, College of Health Sciences**
	Senior Associate Dean
Sherrill J. Smith	Dean, Fay W. Whitney School of Nursing
Kem Krueger	Dean, School of Pharmacy
Mark Guiberson	Director, Division of Communication Disorders
Derek Smith	Director, Division of Kinesiology and Health
Valerie Thompson-Ebanks	Director, Division of Social Work
John Willford	Assistant Director, WWAMI Medical Education
Brian Veauthier	Director, UW Family Medicine Residency Program at Casper
Evan Norby	Director, UW Family Medicine Residency Program at Cheyenne
Michelle Jarman	Interim Executive Director, Wyoming Institute for Disabilities (WIND)
Craig Vaske	Manager, Health Sciences Advising

Peter Parolin	**Dean, Honors College**
Breezy Taggart	Associate Dean
Julie Hill	**Dean, College of Law**
Sam Kalen	Associate Dean
Brent L Pickett	**Dean/Professor, UW-Casper**

Other Academic Officers

Jim Ahern	**Dean/Vice Provost, School of Graduate Education**
Sreejayan Nair	Director, Biomedical Sciences
Melanie Murphy	Director, Program in Ecology and Evolution
Andrew Parsekian	Director, Hydrologic Sciences
Daniel Levy	Director, Molecular and Cellular Life Sciences
Kara Pratt	Director, Neuroscience
Cassandra Kvenild	**Dean, University Libraries**
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Steve Smutko	Assoc Dean/Professor/Spicer/Wyo Excellence Chair
Holly Krutka	Executive Director, School of Energy Resources
Lt Col John D. Sieps, Commander	Head, U.S. Air Force ROTC
LTC Paul W. Hanson, Commander	Head, U.S. Army ROTC
Janel Seeley	Director, John P. Ellbogen Center for Teaching and Learning
Paul Flesher	Director/Professor, American Heritage Center

Margaret (Beth) McMillan

Director, Research Scientist, Sr, Wyoming Geographic Information Science Center

For a complete list of all faculty and staff and their contact information, please see the UW Campus Directory or the UW Web site at www.uwyo.edu.

Colleges and Schools

University of Wyoming

College of Agriculture, Life Sciences and Natural Resources

151 Agriculture Building

Kelly Crane, Interim Dean
Phone: (307)766-4133
Web site: www.uwyo.edu/uwag

The College of Agriculture, Life Sciences and Natural Resources offers a wide variety of course work in agriculture, natural resources, molecular biology, and family and consumer sciences. The curriculum provides a sound background in basic sciences and the choice of a number of fields in which to specialize. Students are trained in principles which apply throughout the world, with special emphasis on agriculture and natural resources found in the Rocky Mountain region.

Laboratory work and other experiential learning opportunities are stressed in all programs. Students receive excellent training from case studies and practical experience provided at research and extension centers. Other facilities include modern laboratories and classrooms, an abattoir, meat processing rooms, livestock and crop farms and greenhouses.

In addition to the academic departments, the college includes the Agricultural Experiment Station and the UW Extension. Materials and techniques resulting from this effective triple combination benefit students in the never-ending search for problem-solving information. The close relationship between teachers, researchers, and extension educators creates a learning atmosphere that encourages the development of the finest students.

Department of Agricultural and Applied Economics

206 Agriculture Building, (307) 766-2386
FAX: (307) 766-5544
Web site: www.uwyo.edu/agecon
E-mail: ag-econ@uwyo.edu
Department Head: Benjamin S. Rashford

Professors:

CHRISTOPHER T. BASTIAN, B.S. University of Wyoming 1987; M.S. 1990; Ph.D. Colorado State University 2004; Professor of Agricultural Economics 2017, 2005.

ROGER COUPAL, B.S. Utah State University 1978; M.S. University of Arizona 1985; Ph.D. Washington State University 1997; Professor of Agricultural Economics 2015, 1997.

DON MCLEOD, B.S. St. John's College 1982; M.S. Oregon State University 1987; Ph.D. 1994; Professor of Agricultural Economics 2015, 1995.

L. STEVEN SMUTKO, B.S. Colorado State University 1978; M.C.R.P. North Dakota State University 1982; Ph.D. Auburn 1995; Spicer Chair of Collaborative Practice, Professor of Agricultural Economics 2009.

Associate Professors:

KRISTIANA M. HANSEN, B.A. Reed College 1996; M.S. University of California, Davis 2003; Ph.D. 2008; Associate Professor of Agricultural Economics 2016, 2009.

VARDGES HOVHANNISYAN, B.S. Armenian State University of Economics 1999; M.S. Armenian State Agrarian University 2002; Ph.D. University of Wisconsin-Madison 2012; Associate Professor of Agricultural Economics 2021, 2015.

CHIAN A. JONES-RITTEN, B.S. Northern Arizona University 2003; M.A. Colorado State University 2007; Ph.D. 2011; Associate Professor of Agricultural Economics 2013.

BENJAMIN S. RASHFORD, B.S. University of Wyoming 1999; M.S. 2001; Ph.D. Oregon State University 2006; Associate Professor of Agricultural Economics 2012, 2006.

Assistant Professor:

ANDERS VAN SANDT, B.A. Linfield University 2012; Ph.D. Colorado State University 2018; Assistant Professor of Agricultural Economics 2020.

Academic Professionals:

BRIDGER M. FEUZ, B.S. University of Wyoming 1994; M.S. 1996; Senior Extension Educator 2012, 2004.

THOMAS FOULKE, B.A. University of Montana 1985; M.S. University of Wyoming 1992; Senior Research Scientist 2010, 1998.

LETICIA HENDERSON, B.S. New Mexico State University 2010; M.S. 2012; Assistant Lecturer 2019.

JOHN HEWLETT, B.S. Montana State University 1985; M.S. Oregon State University 1987; Senior Exension Educator 1987.

BRIAN LEE, B.S. University of Wyoming 2010; M.S. 2012; Research Scientist 2012.

AMY NAGLER, B.A. University of Wyoming 1996; M.S. 2002; Assistant Research Scientist 2016.

HANNAH WILSON, B.S. Southern Arkansas University 2021; M.S. University of Wyoming 2023.

ROBERT ZIEGLER, B.S. University of Wyoming 2018; M.S. University of Nebraska-Licoln 2020.

Temporary Lecturer:

Professors Emeritus:

Nicole Ballenger, Edward Bradley, Larry J. Held, James J. Jacobs, Dale Menkhaus, Carl Olson, Alan C. Schroeder, David T. Taylor, Glen D. Whipple

The Department of Agricultural and Applied Economics offers three concentrations within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three concentrations focus on the development of critical thinking, applied knowledge, and communication skills for students interested in

1. agricultural operations,

2. small rural businesses,

3. community economics,

4. financial institutions,

5. agricultural and natural resources development, and

6. other pursuits where applied economic tools will be useful.

A brief description of minimum course requirements for each of the three concentrations in agricultural business is given below. In addition, professional advisers will work with students to tailor a curriculum to individual interests and goals.

Agribusiness Management Concentration

This curriculum is for students preparing for careers in the agribusiness field. Applied agricultural economics courses are supplemented with marketing, management, finance and other courses from the College of Business and production-oriented courses from other departments in the College of Agriculture, Life Sciences, and Natural Resources.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13373

Farm and Ranch Management Concentration

This curriculum is for students intending to become operators or professional managers of farms, ranches, or feedlots. It is also well suited for students interested in the field of agricultural finance, or a minor in biological fields, such as agroecology or range management. In this concentration, courses in farm and ranch management, finance, and marketing are supplemented by courses in plant sciences, range management, veterinary sciences, and animal science.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13374

Livestock Business Management Concentration

This curriculum is for students intending to work in any sector of the livestock and meat industry, ranging from input suppliers, to ranches, feedlots, meat packing companies, marketing and sales agents, futures/commodities exchange groups, policy makers, and international trade organizations. In this option, courses in farm and ranch management, agricultural finance, and marketing are supplemented with courses in animal science, biology, range management, food science, and data analysis. Students may pursue a minor in Animal Science as part of this option. Students will gain a broad understanding of both the business and science of the livestock industry.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13773

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Minor Programs

The department also offers five minor programs. These five minors are to give students majoring in other undergraduate curricula in the university a concentration of work in any of the specialized undergraduate curricula offered by the department or in general agricultural economics. Each minor requires 27 hours in prescribed course work including 6 hours in supporting agriculture. Students need to plan their course work to meet course prerequisites.

Agricultural Business Minor. AGEC 1010, 1020, 4050 or MKT 3210, and 4060; ACCT 2010; 6 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

Farm and Ranch Management Minor. AGEC 1010, 1020, 2020 and 4640; 9 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

International Agriculture Minor. AGEC 1010, 1020, 3860 and 4880; 6 additional hours in upper-level agricultural economics courses; 3 hours in foreign culture or language; 6 hours in supporting agriculture courses.

Natural Resource Economics Minor. AGEC 1020, 3750, 4700, 4720; choose 9 additional hours from: AGEC 4450, 4600, 4710, ECON 2400, 4400, 4410, 4520 (note: College of Business prerequisites), ENR 4500.

General Agricultural Economics Minor. AGEC 1010, 1020 and 15 additional hours in agricultural economics courses with 12 hours at the upper-level; 6 hours in supporting agriculture courses.

Graduate Study

The Department of Agricultural and Applied Economics offers graduate work leading to the Master of Science degree. Students may choose among major options in the areas of agricultural and applied economics and agricultural business. The Plan A agricultural economics major emphasizes research with any of the following focus areas:

production economics and management, marketing and market analysis, resource and environmental economics, international agriculture, and economic and rural development.

The Plan B agricultural business option offers advanced skills to students who desire professional careers in the business sector. Students in the agricultural business option may concentrate their coursework and writing in management, marketing, or finance. Dual majors in water resources, and environment and natural resources are also offered.

Finally, the Department offers a graduate minor in applied economics. This program is for currently enrolled graduate students in other disciplines seeking a foundation in economics as well as their major discipline.

Program Specific Admission Requirements

Undergraduate major in agricultural economics or economics is not required.

Students may be required to complete program prerequisite courses, without graduate credit, that were not completed in their undergraduate education.

Specifically, students who have not completed at least one course in calculus, statistics, and intermediate microeconomic theory may be required to complete these courses without graduate credit during their first semester in residence.

Program Specific Degree Requirements

Master of Science in Agricultural Economics

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

AGEC 5310 Theory of Producer Behavior...3

AGEC 5630 Advanced Natural Resource Economics 3

AGEC 5710 Advanced Agricultural Market Theory 3

AGEC 5740 Theory of Consumer Behavior 3

Quantitative Methods

AGEC 5230 Intermediate Econometric Theory 3

AGEC 5320 Quantitative Methods in Agricultural Economics.....3

Research

AGEC 5650 Communicating Research.....3

AGEC 5880 Advanced Seminar.....1

Plan A (thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives. No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic. Presentation of

research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (non-thesis):

Minimum of 32 hours of coursework; Non-thesis business analysis paper accepted by the student's graduate committee. Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

AGEC 5310

AGEC 5740

AGEC 5880

AGEC 5630 or 5710

AGEC 5320 or 5230

In addition, students are required to complete 3 credit hours from each of the following three areas:

Management:

AGEC 4060, 4640 or 5460; or MGT 4410, 4420, 4440, 4470, or 4520

Marketing:

AGEC 4050, 4830, 4840, 4880, or 5710; or MKT 4240, 4430, 4520, or 4540

Finance:

AGEC 4500; or FIN 4510, 4520, 4610, 4810; or ECON 4740

Remaining credit hours will be filled with electives. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic. Presentation of the business analysis paper at a formal public seminar. An internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Master of Science in Agricultural Economics/ Water Resources; Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 10 credit hours in water resources approved courses. Please refer to Water Resources Degree program in this Catalog for updated degree requirements. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the water resources area. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Master of Science in Agricultural Economics/Environment and Natural Resources (ENR); Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Graduate Minor in Applied Economics:

Graduate standing. AGEC 4640, AGEC 5310 or 5740, AGEC 5320 or 5230, and 6 additional credits of approved courses. Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Department of Animal Science

Animal Science/Molecular Biology Bldg., Rm 101
(307) 766-2224
FAX: (307) 766-2355
Web site: uwyo.edu/anisci
Department Head: Bledar Bisha

Professors:

BRENDA M. ALEXANDER, B.S. University of Wyoming 1986; M.S. 1988; Ph.D. 1999; Professor of Animal Science 2019, 2006.

SCOTT L. LAKE, B.S. University of Nevada 1998; M.S. 2001; Ph.D. University of Wyoming 2005; Professor of Animal Science 2021, 2014, 2008. Extension Livestock Specialist. Director of Laramie R&E Center.

JAMES K. PRU, B.S. 1991 and M.S. 1993 Zoology and Physiology, University of Wyoming; Ph.D. Molecular Reproductive Biology University of Wyoming 2000; Professor and Rochelle Chair of Animal Science 2021.

BARBARA RASCO, B.S.E. University of Pennsylvania 1979; Ph.D. Food Science, University of Massachusets 1983; J.D. Seattle University 1995; Dean, College of Agriculture, Life Sciences and Natural Resources, 2019-2023.

Associate Professors:

BLEDAR BISHA, D.V.M. Agricultural University of Tirana-Albania 1999; M.S. Iowa State University 2004; Ph.D. 2009; Associate Professor of Animal Science 2019, 2013.

PAUL A. LUDDEN, B.S. University of Nebraska-Lincoln 1991; M.S. Purdue University 1994; Ph.D. University of Missouri-Columbia 1997; Associate Professor of Animal Science 2004, 1998.

STEVEN I. PAISLEY, B.S. University of Wyoming 1993; M.S. 1995; Ph.D. Oklahoma State University 1998; Extension Beef Cattle Specialist; Associate Professor of Animal Science 2007, 2001. Director of SAREC R&E Center.

WHIT STEWART, B.S. Brigham Young University-Idaho 2008; M.S. Oregon State University 2010; Ph.D. New Mexico State University 2015; Assistant Professor of Animal Science 2017.

Assistant Professors:

JEREMY BLOCK, B.S. University of Missouri 1998; M.S. University of Florida 2003; Ph.D. 2007; Assistant Professor of Animal Science 2020.

HANNAH C. CUNNINGHAM-HOLLINGER, B.A. St. Olaf College 2012; M.S. University of Wyoming 2014; Ph.D. 2018; Assistant Professor of Animal Science 2019.

DANA K. DITTOE, B.S. Mississippi State University 2016; M.S. 2017; Ph.D. University of Arkansas 2020. Assistant Professor 2023

CODY GIFFORD, B.S. 2013, M.S. 2016; Ph.D. Colorado State University 2019; Assistant Professor of Animal Science 2019.

PAULO M.T. LIMA, B. S. 2011 Veterinary Medicine, University of Brasília (Brazil); M. S. 2013 Animal Sciences, University of Brasília (Brazil); Ph.D. 2016 Sciences, Center for Nuclear Energy in Agriculture - University of São Paulo (Brazil); Assistant Professor Animal Science/Precision Livestock Specialist 2023, University of Wyoming.

BRANDON L. ROBERTS, B.S. 2009 and Ph.D. 2015 Neuroscience, Washington State University; Assistant Professor in Dept. of Zoology & Physiology and Dept. of Animal Science 2023.

SHELBY ROSASCO, B.S. California State University 2012; M.S. New Mexico State University 2016; Ph.D. New Mexico State University 2020; Assistant Professor of Animal Science 2020.

Academic Professional Lecturers:

LANDON K. ELDRIDGE, B.S. 2019 and M.S. 2023 Animal Science, Texas A&M University.

JENNIFER A. INGWERSON-NIEMANN, B.S. University of Nebraska-Lincoln 2005; M.S. Iowa State University 2014; Academic Professional Lecturer in Animal Science 2014.

McKENSIE K. PHILLIPS, B.S. University of Wyoming 2015; M.S. Texas A&M University 2017; Assistant Lecturer in Animal Science 2018.

Adjunct Professors:

Kristi Cammack, Jeff Chandler, Thomas Hansen, John Johnston, Tom McDonald, Peter Nathanielsz, Mark Nijland, Heywood Sawyer, Donal Skinner, D. Paul Thomas, Meijun Zhu

Professors Emeriti:

Ray Field, Bret Hess, Frank Hinds, Doug Hixon, Steven W. Horn, Conrad Kercher, Warrie Means, Richard J. McCormick, Gary Moss, William Murdoch, Johannes Nel, Bibek Ray, Dan Rule

Introduction

The Department of Animal Science offers a variety of courses in animal and food science. The department uses modern laboratories and excellent animal facilities including a livestock teaching arena and a meat processing facility.

The Department of Animal Science and the Department of Veterinary Science have a combined curriculum, under Animal and Veterinary Science (ANVS). The curriculum has options in production, range livestock, business, communication, animal biology, preveterinary medicine, meat science and food technology, and equine science. The curriculum leads to a wide variety of career opportunities for animal and veterinary science graduates.

B.S. in Animal and Veterinary Science

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the bachelor of science degree in animal and veterinary science. Courses in animal science, food science, and pathobiology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various concentrations provide maximum flexibility to meet the changing needs of students and their employers.

Our concentrations allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal Biosciences Concentration

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

Equine Science Concentration

This concentration is designed to provide a strong foundation in animal and equine science and its application to equine production and management for those interested in a career in the horse industry.

Food Animal industries Concentration

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

Pre-Veterinary Medicine Concentration

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

Undergraduate Minors

The Departments of Animal Science and Veterinary Sciences offers two minors:

- Animal and Veterinary Science Minor
- Equine Science Minor

Graduate Study

Masters Program

The Departments of Animal Science and Veterinary Science offer programs leading to the M.S. (Plan A and Plan B) and Ph.D. degrees in animal and veterinary science. A M.S. degree in food science and human nutrition is offered in cooperation with the Department of Family and Consumer Sciences. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. Biomedical Science Program.

Food Science

Food science is the application of basic sciences to the processing, quality control, storage, distribution and consumer use of food products. The microbiological, chemical and physical characteristics of foods as related to food processing and product quality are studied. Major emphasis is placed in the area of animal food products.

Doctoral Program

The program requires 72 hours. Students must follow minimum graduate requirements.

Department of Botany

114 Aven Nelson Building, (307) 766-2380
FAX: (307) 766-2851
Website: www.uwyo.edu/botany
Department Head: Brent E. Ewers

Professors:

ELLEN D. CURRANO, B.Sc. (Hons.) University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Botany 2022, 2014.

BRENT E. EWERS, B.S. Colorado State University 1995; M.S. Duke University 1997; Ph.D. 1999; Professor of Botany 2014, 2002.

DANIEL C. LAUGHLIN, B.S. Calvin College 1999; M.S. Pennsylvania State University 2002; Ph.D. Northern Arizona University 2009; Professor of Botany 2022, 2017.

STEVEN L. MILLER, B.S. University of Wyoming 1979; M.S. Virginia Polytechnic Institute and State University 1982; Ph.D. 1985; Professor of Botany 2002, 1990.

CAMELLIA OKPODU, B.S. North Carolina State University 1987; Ph.D. North Carolina State University 1994; Professor of Botany 2021.

DAVID TANK, B.S. (Hons.) Michigan State University 1998; M.S. Michigan State University 2000; Ph.D. University of Washington 2006; Professor of Botany 2021.

CYNTHIA WEINIG, B.A. (Hons.) Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

DAVID WILLIAMS, B.A. The University of Texas, Austin 1985; M.S. Texas A&M University 1988; Ph.D. Washington State University 1992; Professor of Botany 2009, 2003.

Associate Professors:

CATHERINE E. WAGNER, B.A. (Hons.) Whitman College 2004; Ph.D. Cornell University 2011; Assistant Professor of Botany 2015.

Assistant Professors:

LAUREN SHOEMAKER, B.A. (Hons.) Colorado College 2011; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

CHRISTOPHER WEISS-LEHMAN, B.A. Earlham College 2010; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

Senior Lecturer:

MARK E. LYFORD, B.A. St. Olaf College 1993; M.S. University of Wyoming 1995; Ph.D. 2001; Senior Lecturer in Botany 2014, 2005.

Associate Instructional Professor:

CHRISTOPHER NORTH, B.S. Virginia Polytechnic Institute and State University 2002; M.S. Eastern Illinois University 2005; Ph.D. University of Wyoming 2017; Associate Instructional Professor in Botany 2022, 2014.

Assistant Instructional Professor:

JAMIE CRAIT, B.Sc. Oregon State University 1999; M.S. University of Wyoming 2005; Ph.D. 2013; Assistant Lecturer in Botany 2018.

Senior Research Scientist:

BURRELL E. NELSON, B.A. Andrews University 1971; M.A. University of Wyoming 1974; Senior Research Scientist.

Research Scientist:

BEN LEGLER, B.S. University of Washington 2001; M.S. University of Wyoming 2010; Research Scientist 2021.

Professors Emeriti:

Dennis H. Knight, Stephen T. Jackson, William A. Reiners

Associate Professors Emeriti:

Daniel B. Tinker

Botany

Botany is the study of plants and their relationship to human affairs. The science is fundamental to food, fiber and pharmaceutical production; to the management of landscapes for beauty, recreation, forest products and forage; and to the protection of landscapes against pollution and other abuses. The botanist is concerned with the diversity and classification of plants and fungi, their structure at both the macroscopic and microscopic levels, and their physiology, ecology and genetics and evolutionary relationships.

Courses in botany have been developed to meet the needs of the following groups of students: those who desire a general knowledge of the subject for its cultural value, those specializing in areas which require a background in plant biology, and those selecting botany or biology as a major.

Undergraduate Degrees:

Students can choose from two undergraduate degree majors: the Botany B.S. and Biology B.S. programs. The Biology B.S. program includes an optional Concentration in Ecology and Evolution. The Biology B.S. degree program also maintains a concurrent major offered through the College of Education whereby students fulfill all the major requirements for Biology on top of their requirements for the B.S. degree in Secondary Science Education with a major in Biological Sciences Education.

Undergraduate Minors:

Minors in Biology and Botany are offered.

Graduate Study:

The Department of Botany offers graduate programs leading to the master of science and the doctor of philosophy degrees in botany.

Program Specific Admission Requirements (Graduate Study)

A minimum GPA of 3.000 on previous coursework is required.

Program Specific Degree Requirements (Graduate Study)

Regardless of field of specialization, all candidates will be held responsible for basic information in the following areas: genetics, physiology, morphology, and evolutionary and environmental botany. A knowledge of chemistry (including organic and elementary biochemistry), physics, calculus, and statistics may be required.

A minimum GPA of 3.000 must be maintained. Any course in which a C (or below) or U is obtained cannot be counted toward the degree requirement.

Participation in seminars will be required of all candidates during their residence at the University of Wyoming.

Department of Ecosystem Science and Management

2013 Agriculture Building
(307) 766-2263
FAX: (307) 766-6403
Website: uwyo.edu/esm
Department Head: Timothy R. Collier

Professors:

JEFFREY L. BECK, B.S. Brigham Young University 1993; M.S. 1996; Ph.D. University of Idaho 2003; Professor of Rangeland Ecology and Watershed Management 2018, 2007.

THIJS KELLENERS, B.S. Wageningen University, The Netherlands 1988; M.S. 1993; Ph.D. 2001. Professor of Soil Science 2018, 2012.

SCOTT N. MILLER, B.S. Brown University 1991; M.S. University of Arizona 1995; Ph.D. 2002; Professor of Rangeland Ecology and Watershed Management 2017, 2002.

MELANIE MURPHY, B.S. University of Idaho 1998; M.S. 2001; Ph.D. Washington State University 2008; Professor of Rangeland Ecology and Watershed Management 2023, 2010.

VIRGINIA B. PAIGE, B.A. Colorado College 1984; M.S. University of Massachusetts 1992; Ph.D. University of Arizona 2000; Professor of Rangeland Ecology and Watershed Management 2019, 2004.

SCOTT R. SHAW, B.S. Michigan State University 1977; M.S. University of Maryland 1981; Ph.D. 1984; Professor of Entomology 1998, 1989.

Associate Professors:

DAVID CHRISTIANSON, B.S. Montana State University 2003; Ph.D. 2008; Associate Professor of Rangeland Ecology and Watershed Management 2021, 2019.

TIMOTHY R. COLLIER, B.S. University of California-Riverside 1987; Ph.D. University of California-Santa Barbara 1994; Associate Professor of Entomology 2008, 2002.

KRISTINA HUFFORD, B.A. University of California-Berkeley 1993; Ph.D. University of Georgia 2001; Associate Professor of Rangeland Ecology and Watershed Management 2017, 2010.

FABIAN NIPPGEN, M.S. Albert-Ludwigs University 2007; Ph.D. Montana State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2023, 2017.

J. DEREK SCASTA, B.S Texas A&M University 2004; M.S. 2008; Ph.D. Oklahoma State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2020, 2014.

LINDA VAN DIEPEN, B.S. Hogeschool IJselland, Deventer 1999; M.S. Wageningen University 2002; Ph.D. Michigan Technological University 2008; Associate Professor of Soil Microbiology 2021, 2015.

KAREN L. VAUGHAN, B.S. University of Delaware-Newark 2001; M.S. University of Maryland-College Park 2004; Ph.D. University of Idaho-Moscow 2008; Associate Professor of Pedology 2021, 2015.

Assistant Professors:

TUCKER FURNISS, B.S. University of Washington 2011; M.S. Utah State University 2016; Ph.D. 2021; Assistant Professor of Rangeland Ecology and Watershed Management 2023.

Lecturers:

BRIAN SEBADE, B.S. University of Wyoming 2008; M.S. 2010**;** Assistant Lecturer in Rangeland Ecology and Watershed Management 2023.

Academic Professionals:

SCOTT SCHELL, B.S. University of Wyoming 1991; M.S. 1994; Senior Extension Entomologist 2005, Associate Research Scientist 2009.

Adjunct Professors:

Justin Derner, Brenda Schladweiler, Gerald Schuman, Ramesh Sivanpillai, Kevin Wilcox

Professors Emeriti:

Ann Hild, Alexandre Latchininsky, David Legg, Larry Munn, Richard Olson, Katta Reddy, J. Daniel Rodgers, Quentin Skinner, Michael Smith, Peter Stahl, John A. Tanaka, George Vance, James Waggoner, James Wangberg, Thomas Wesche, Stephen Williams

Undergraduate Study

The Department of Ecosystem Science and Management offers a Bachelor of Science degree in Rangeland Ecology and Watershed Management. This degree can also be obtained as an affiliate degree in conjunction with the School of Environment and Natural Resources. Five minor degree programs are offered through the department: Forest Resources, Insect Biology, Rangeland Ecology and Watershed Management, Reclamation and Restoration Ecology, and Soil Science. Obtaining a minor to complement a B.S. major degree program provides credentials and knowledge that can expand career opportunities.

The degree programs reflect the department's diverse expertise in natural resource management and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/ integrated pest management, soil science and various types of environmental consulting) or other science careers.

Student Learning Outcomes

The goal of the Department of Ecosystem Science and Management is to provide students with comprehensive knowledge in several different areas in addition to their specific area of study. These expectations ensure that students may take these learned skills and successfully apply them in their post-graduate endeavors. Assessments in all areas are based on knowledge, skills, and attitude.

These areas include:

> Oral communication encompasses all the abilities necessary for effective expression and sharing of information, ideas, and feelings in a format including verbal and nonverbal symbols.
>
> Proficiency in written communication will ensure that students will be able to write for different audiences, from expressive writing to technical writing, using a range of sophistication in language.
>
> Professional behavior involves attaining high standards of behavior and appropriate attitudes, not only through acquiring knowledge and experience but a lifelong commitment to learning and achievement.
>
> Competency in critical thinking and problem-solving enables students to engage in reasonable, reflective thinking focused on deciding what to believe or do.
>
> Computer and information literacy ensures that students will be viewed as trainable and adaptable in a computerized work environment. Proficiency in this area also enables students to effectively access online information, and skillfully make use of it.

Knowledge of student skills in these different areas will aid the department in:

> Planning instructional strategies to address student strengths and weaknesses;
> Evaluating and describing overall student achievement;
> Counseling students for academic and career options; and
> Evaluating the effectiveness of instructional programs.

Graduate Study

The Department of Ecosystem Science and Management is an interdisciplinary department made up of five disciplines: entomology, rangeland ecology, soil sciences, reclamation/restoration, and watershed management. The department offers master of science and doctor of philosophy degrees in entomology, rangeland ecology and watershed management, and soil science. For the rangeland ecology and watershed management degrees, thesis and dissertation problems may be developed in aspects of range ecology, wildlife habitat, reclamation of disturbed lands, watershed management, utilization and improvement of rangelands, and many other facets of range and forest ecology management. For the entomology degrees, thesis and dissertation problems may be developed in many areas of basic and applied aspects of insect biology and ecology. For soil degrees, thesis and dissertation problems may be developed in many basic and applied aspects of soil science. The degree programs reflect the department's diverse expertise in natural resource and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/integrated pest

management, soil science, and various types of environmental consulting) or other science careers. A graduate certificate in reclamation and restoration ecology may be obtained after completion of a B.S. degree or in conjunction with an M.S. or Ph.D. degree. Graduate students may also obtain interdisciplinary degrees in association with ESM faculty advisors: M.S. in Water Resources in combination with a number of other degrees, Ph.D. in Hydrologic Sciences or Ph.D. in Ecology and Evolution.

Program Specific Admission Requirements

Admission is contingent upon a faculty member being willing to assume responsibility for mentoring the student as an advisor.

Applicants are encouraged to initiate correspondence with faculty who share similar research interests as part of the process of securing faculty advising commitment. Prospective students that have not identified a graduate advisor willing to mentor them will not be considered for admission.

In special circumstances, and with the faculty advisor's support, a student may be admitted on a provisional basis with continued enrollment dependent upon meeting performance requirements specified at the time of admission.

Program Specific Graduate Assistantship Information

Prospective students are encouraged to directly correspond about future opportunities for graduate assistantships with faculty that share similar research interests.

Graduate courses in the department are offered in entomology, rangeland ecology and watershed management, renewable resources, and soil science.

Environment and Natural Resources Affiliate Degrees

The Bachelor of Science degree in Rangeland Ecology and Watershed Management may also be obtained as an affiliate degree with the School of Environment and Natural Resources. In this case, the degree titles would be Environment and Natural Resources/Rangeland Ecology and Watershed Management. The additional coursework requirements necessary for obtaining an affiliate degree are described in the School of Environment and Natural Resources section of this publication.

Interdisciplinary Graduate Degrees

- Agricultural Economics/Water Resources, M.S. Interdisiplinary
- Ecology and Evolution, Ph.D.
- Geophysics/Water Resources, M.S. Interdisciplinary
- Hydrologic Sciences, Ph.D. (WRESE)
- Rangeland Ecology and Watershed Management/Water Resources, M.S. Interdisciplinary
- Soil Science/Water Resources, M.S. Interdisciplinary

Department of Family and Consumer Sciences

251 Agriculture Building, (307) 766-4145
FAX: (307) 766-5686

Web site: www.uwyo.edu/fcs
Department Head: Dr. Jill Keith

Associate Professors:

JENNIFER HARMON, B.S. Illinois State University 2009; M.S. The Ohio State University 2013; Ph.D. 2014; Associate Professor, Design, Merchandising, and Textiles 2021, 2015.

ERIN IRICK, B.S. Kansas State University 2000; M.S. 2006; Ph.D. Oklahoma State University 2013; Associate Professor, Design, Merchandising, and Textiles 2019, 2013.

JILL KEITH, B.S. North Dakota State University 2000; M.S. Capella University 2009; Ph.D. North Dakota State University 2016; Associate Professor, Human Nutrition and Food/Dietetics 2022, 2016.

ALYSSA McELWAIN, B.A. Kansas State University 2006; M.S. Purdue University 2008; Ph.D. Auburn University 2015; Associate Professor, Human Development and Family Sciences 2021, 2015.

BERNARD STEINMAN, B.A. University of Washington 1991; M.S. Mississippi State University 2004; Ph.D. University of Southern California 2010; Associate Professor, Human Development and Family Sciences 2022, 2015.

CHRISTINE WADE, B.S. Willamette University 2001; M.S. University of Wyoming 2005; Ph.D. 2008; Associate Professor, Human Development and Family Sciences 2015, 2008

Assistant Professors:

GRACE SHEARRER, B.S. University of Wyoming 2012; Ph.D. University of Texas at Austin 2016. Assistant Professor, Human Nutrition and Food/Dietetics 2020.

Academic Professionals:

JENNA CHALCRAFT, B.S 2013 University of Wyoming; M.S. 2019; Assistant Lecturer/Program Director Human Nutrition and Food/Dietetics 2023

SARAH LEE, B.A. and M.S. University of Wyoming 1981; 1996; Assistant Lecturer, Human Development and Family Sciences 2020.

TREVA SPROUT AHRENHOLTZ, B.S. 1993, 1997 University of Wyoming; M.S. 1995; Senior Lecturer, Design, Merchandising, and Textiles 2013, 2005.

Professor Emeritus:

Donna Brown, Bruce Cameron, Saul Feinman, Michael Liebman, Judith A. Powell, Rhoda Schantz, Virginia Vincenti, Mary Kay Wardlaw, Randolph R. Weigel, Karen Williams

Department Information

Our mission is to enhance the physical, social, and economic well-being of individuals, families, and communities, emphasizing healthy and sustainable living across the lifespan. We fulfill our mission through instructional, research, and outreach/extension efforts that challenge, motivate, and inspire.

Family and Consumer Sciences integrates the fundamental components of human life - food, shelter, clothing, human relationships, and family - with larger societal systems. Through majors in design, merchandising and textiles; human food and nutrition; and human development and family sciences, our department prepares learners to meet the opportunities and challenges of today's complex world.

All students pursuing a Bachelor of Science degree in the department of Family and Consumer Sciences are required to complete a minimum of 120 credit hours that include a) University Studies requirements (USP); b) departmental core curriculum; and c) courses in one of the following majors: Design, Merchandising and Textiles; Human Development and Family Sciences; or Human Nutrition and Food. Majors in Design, Merchandising and Textiles must select one of three concentrations: apparel design and product development; interior design, or merchandising. Majors in Human Development and Family Sciences may select a concentration in family and consumer sciences teacher certification or professional child development. Human Nutrition and Food majors may choose to apply to the Didactic Program in Nutrition and Dietetics.

Family and Consumer Sciences Student Learning Outcomes

Students graduating with a degree from the Department of Family and Consumer Sciences will be proficient in their major as well as be able to effectively communicate (both written and orally), possess intellectual skills (such as critical and creative thinking and problem solving), and demonstrate appropriate levels of professionalism.

Family and Consumer Sciences Core Requirements

A core curriculum is required of all majors in the Department of Family and Consumer Sciences. This requirement is based on a common body of knowledge in family and consumer sciences which contains concepts relevant to all majors and concentrations.

The Family and Consumer Sciences Core consists of the following requirements.

All majors must complete the following course:

- FCSC 2200 - Professionalism and Communication in FCSC

Students must also select one course from each of the following categories outside their major, in consultation with their advisor:

Design, Merchandising and Textiles

The Design, Merchandising, and Textiles (DMT) program emphasizes the study of historic clothing and textiles, merchandising of textile and apparel products, retail business sector applications, and various aspects of apparel design, including both artistic and functional design options

Human Development and Family Sciences

The Human Development and Family Sciences (HDFS) program is designed for professionals currently working in human services fields who would like further education and serve individuals and families across the lifespan.

Human Nutrition and Food

The Human Nutrition and Food Science (HNF) program enables students to pursue studies in areas such as human nutrition and metabolism, food product development, community nutrition, food microbiology, sports nutrition, and disease prevention.

Department of Molecular Biology

203 Animal Science/Molecular Biology Bldg.

(307) 766-3300

Website: www.uwyo.edu/MolecBio/

Department Chair: Jesse "Jay" Gatlin

Modern biology is based on a fundamental understanding of molecular processes essential in living organisms. Recent advances in molecular biology have led to an explosion of knowledge about gene expression and the role gene products play in cell function. Undergraduate programs in molecular biology offer learning opportunities at the forefront of modern biology.

The molecular biology degree programs are designed to prepare students for the future by combining a foundation in basic sciences and humanities with a broad selection of courses in molecular biology, biochemistry, genetics and microbiology. Advanced undergraduates attend an outside speaker's program that includes some of the world's best-known scientists. Modern, well-equipped teaching and research laboratories contribute significantly to the educational experience of a student. All junior- and senior-level undergraduates are encouraged to participate in research projects with individual faculty members. Involvement in an active research program provides the student with an additional dimension of learning beyond what is assimilated in courses. A student learns to plan experiments, solve technical problems and experience scientific advances. An undergraduate research project also promotes close interaction between the undergraduate and graduate students, postdoctoral researchers, staff and faculty.

Many molecular biology majors continue their education beyond the bachelor's level by going to graduate school or to medical, dental or veterinary school. Some students choose to use their education to gain employment in biotechnology, clinical or basic research laboratories. Other career choices include teaching, medical technology, law and business. In addition, the Department of Molecular Biology offers the Ph.D., M.S. and M.A. degrees for students who wish to do graduate work in molecular biology, in preparation for careers in academia, the biotechnology and biopharmaceutical industry, medicine, or other professions.

Professors

DAVID FAY, B.S. Tufts University 1988; Ph.D. Yale University 1995; Professor of Molecular Biology 2010, 2001.

JESSE "JAY" C. GATLIN, B.S. University of Colorado-Boulder 1995; Ph.D. University of Colorado-Aurora 2005; Professor of Molecular Biology 2021, 2010.

MARK GOMELSKY, B.S. Moscow Institute of Chemical Technology 1986; M.S. 1988; Ph.D. Institute of Genetics and Selection of Industrial Microorganisms 1991; Professor of Molecular Biology 2011, 1999.

DONALD L. JARVIS, B.S. Idaho State University 1978; M.S. 1980; Ph.D. Baylor College of Medicine 1986; Professor of Molecular Biology 2000, 1998.

DANIEL L. LEVY, B.S. California Institute of Technology 2000; Ph.D. University of California San Francisco 2006; Professor of Molecular Biology 2021, 2011.

DANIEL WALL, B.A. Sonoma State University 1988; Ph.D. University of Utah 1994; Professor of Molecular Biology 2018, 2007.

CYNTHIA WEINIG, B.A. Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

Associate Professors

GRANT BOWMAN, B.S. University of Rochester 1997; Ph.D. University of Chicago 2004; Associate Professor of Molecular Biology 2019, 2012.

JASON GIGLEY, B.S. University of New Hampshire 1994; Ph.D. Dartmouth Medical School 2007; Associate Professor of Molecular Biology 2019, 2012.

PAMELA J. LANGER, B.S. Indiana University-Bloomington 1973; Ph.D. Massachusetts Institute of Technology 1980; Associate Professor of Molecular Biology 1994, 1987.

Assistant Professors

THOMAS BOOTHBY, B.S. Tulane University 2008; Ph.D. University of Maryland 2013; Assistant Professor of Molecular Biology, 2019.

EUNSOOK PARK, M.S. Seoul National University 2001; Ph.D. University of Tennessee, Knoxville 2010; Assistant Professor of Molecular Biology 2019.

TODD SCHOBORG, B.S. Murray State University 2008; Ph.D. University of Tennessee 2013; Assistant Professor of Molecular Biology, 2019.

Associate Lecturer

BRIDGET DECKER, B.S. Colorado State University 1998; Ph.D. Dartmouth College 2006; Associate Lecturer Molecular Biology, 2021, 2015.

Assistant Lecturer

KASSANDRA WILLINGHAM, B.S. University of Wyoming 2010, B.S. University of Wyoming-Casper 2017; M.S. Colorado State University 2016; Assistant Lecturer Molecular Biology 2020.

Instructional Teaching Laboratory Coordinator

HOLLY STEINKRAUS, B.A. Ripon College 1987; Ph.D. University of Wyoming 1993; Instructional Teaching Laboratory Coordinator, 2015.

Adjunct Professor

ANNE W. SYLVESTER, B.S. University of Washington 1980; M.S. 1982; Ph.D. 1987; Professor of Molecular Biology 2010, 2006.

Professors Emeritus

Dale Isaak, Randy Lewis, Nancy Petersen, Don Roth, Mark M. Stayton, Peter E. Thorsness, Jordanka Zlatanova

Department of Plant Sciences

Room 50 Agriculture Building
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Website: www.uwyo.edu/plantsciences
Department Head: Andrew Kniss

Professors:

JIM HEITHOLT, B.S. Western Illinois University 1978; M.S. University of Missouri 1980; Ph.D. University of Kentucky 1984; Professor of Crop Physiology 2014.

ANDREW R. KNISS, B.S. University of Wyoming 2001; M.S. University of Nebraska-Lincoln 2003; Ph.D. University of Wyoming 2006; Professor of Weed Ecology and Management in Cropping Systems 2018, 2007.

BRIAN A. MEALOR, B.S. North Georgia College and State University 1999; M.S. University of Wyoming 2003; Ph.D. 2006; Director, Sheridan Research and Extension Center; Professor of Rangeland Restoration and Weed Science 2023, 2009.

URSZULA NORTON, B.S. Warsaw Agricultural University 1988; M.S. 1990; M.S. Iowa State University 1995; Ph.D. University of Montana 2000; Professor of Agroecology and Soil Science 2022, 2009.

Associate Professors:

RANDA JABBOUR, B.S. Rochester Institute of Technology 2003; Ph.D. Pennsylvania State University 2009; Associate Professor of Agroecology 2019, 2013.

Assistant Professors:

CLINT BEIERMANN, B.S. University of Wyoming 2012; M.S. 2017; Ph.D. University of Nebraska-Lincoln 2020; Assistant Professor, Forage Crop Production and Weed Management 2023.

KELSEY BROCK, B.S. University of Alberta 2010; M.S. 2014; Ph.D. University of Hawai‘i - Mānoa 2021; Assistant Professor, Extension Weed Specialist (Invasive Plants) 2022.

JI-JHONG "JJ" CHEN, B.S. National Chung Hsing University, Taiwan 2018; M.S. Utah State University 2020; Ph.D. 2023; Assistant Professor, Horticultural Crop Physiologist 2023.

DONNA HARRIS, B.S. University of Georgia 1998; M.S. 2001; Ph.D. 2014; Assistant Professor of Plant Breeding and Genetics 2020.

Academic Professionals:

JENNA MEEKS, B.S. Colorado State University 2010; M.S. University of Wyoming 2016; Assistant Research Scientist 2021.

ELIZABETH MOORE, B.S. West Texas A&M University 2001; M.S. 2004; Assistant Lecturer of Horticulture and Plant Production 2021.

Emeritus/Retired Faculty:

Rollin H. Abernethy, James Cook, Ron Delaney, Mark Ferrell, Alan Gray, Robin W. Groose, Bernie Kolp, James M. Krall, Karen Panter, William Stump, Thomas D. Whitson, David Wilson

Plant Production and Protection Major (B.S.)

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection (Plant Production and Protection, B.S.), with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in, and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management specialist, ecologist, research associate or technician, agronomist, biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the QuickStart Program section below or online at https://www.uwyo.edu/plantsciences/graduate-studies/quickstart-program.html.

Agronomy Minor (Agronomy Minor)

Minimum Requirements: 19 Hours

Agroecology Minor (Agroecology Minor)

Minimum Requirements: 20 Hours

Horticulture Minor (Horticulture Minor)

Minimum Requirements: 20 Hours

Plant Protection Minor (Plant Protection Minor)

Minimum Requirements: 19 Hours

Plant Production and Protection/Environment and Natural Resources Program, B.S.

(ENR and Plant Sciences)

Students interested in the environment and natural resources may choose to pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources. See the ENR Information and Advising Guide for details.

Graduate Study (M.S. and Ph.D.)

The Department of Plant Sciences offers curricula leading to the master of science and doctor of philosophy degrees in Plant Sciences. Courses within the department are offered in crop science, horticulture, plant pathology, weed science, and agronomy. Interdisciplinary coursework and research projects are common for Plant Sciences graduate students.

Program Specific Admission Requirements

In addition to university minimum requirements, a majority of the department faculty and department head must approve the admission. To be considered for admission, candidates must establish a faculty member willing to serve as advisor.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): a statement of purpose that describes your professional objectives and scientific interests, a current Curriculum Vitae, current academic transcripts, proof of English proficiency (if English is not your primary language) - TOEFL, IELTS, or Duolingo tests are currently accepted, and three letters of recommendation (to be submitted directly by references through the online application). At least two of the letters must be from current or previous university instructors or professional supervisors. Our regular deadlines for fall and spring semester admission are February 15 and October 15, respectively, although we will accept applications any time during the year.

Applicants whose undergraduate cumulative GPA is below 3.0 may be considered via the Professional Experience Track Admissions process if they have had at least two years of relevant professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions section under the "Admission to the University" section of this Catalog.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information, or visit UW's Graduate Education website at http://www.uwyo.edu/uwgrad/.

Program Specific Graduate Assistantship Information

M.S. assistantships include a stipend, plus tuition and fee waiver, and health insurance. Ph.D. assistantships include a stipend, plus tuition and fee waiver, and health insurance. These assistantships are for the 9-month academic year, but summer support is typically available.

Program Specific Degree Requirements

Master of Science in Plant Sciences

Plan A (thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Doctoral Program

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

QuickStart Program (Plant Sciences B.S/M.S.)

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit hour load. Up to six credit hours may be counted toward both the B.S. and M.S. degree programs.

Department of Veterinary Sciences

Department of Veterinary Sciences and the Wyoming State Veterinary Laboratory

(307) 766-9925
FAX: (307) 721-2051
Web site: www.uwyo.edu/vetsci
email: vetscience@uwyo.edu
Department Head: Jonathan Fox

Faculty within the Department of Veterinary Sciences are engaged in teaching, research, and operation of the Wyoming State Veterinary Laboratory (WSVL). Instructional activities contribute to the ANVS and microbiology undergraduate majors. Graduate students within the department are enrolled in the ANVS or MCLS programs. There are opportunities for undergraduate students to obtain experience in research and/or veterinary diagnostic medicine. Faculty research interests span infectious diseases of companion animals, livestock, wildlife, as well as diseases transmissible to humans.

Professors:

JONATHAN H. FOX, B.Sc., B.V.Sc. University of Liverpool, UK 1993; Ph.D. Virginia Tech 2002; Associate Professor UW 2008; Professor UW 2016.

DAVID W. PASCUAL, B.S. University of Florida 1980; M.S. and Ph.D. 1985 and 1987; Professor of Immunology, Montana State University 2005; Professor of Immunology, University of Florida 2012; Wyoming Excellence Chair in Brucellosis UW 2024.

Associate Professors:

BERIT BANGOURA, D.V.M. Leipzig University 2003; Ph.D. 2008; Ph.D. 2015; Diplomate EVPC 2014; Assistant and Associate Professor UW 2017 and 2023 respectively.

MARIA FORZÁN, D.V.M. Universidad Nacional Autónoma de México 1997; M.S. and Ph.D. Atlantic Veterinary College 2000 and 2016; Assistant Professor Cornell University 2017; Associate Professor Long Island University 2019; Associate Professor UW 2023

RAPHAËL V. VANDERSTICHEL, D.V.M and Ph.D. Atlantic Veterinary College 2004 and 2011; Research Scientist and Assistant Professor, Atlantic Veterinary College 2014 and 2016; Associate Professor Long Island University 2019; Associate Professor UW 2024.

Assistant Professors:

ELIZABETH CASE, B.S. Oklahoma State University 2002; Ph.D. University of California-Irvine 2010; Assistant Professor UW 2020.

Clinical Assistant Professor:

JACQUELINE P. KURZ, B.S. Cornell University 2006; B.V.M.&S. Royal (Dick) School of Veterinary Studies, University of Edinburg, UK 2010; Ph.D. Utah State University 2018; Clinical Assistant Professor UW 2020.

LANI R. BOWER, B.S. Northeastern University 2003; M.S. and D.V.M. Colorado State University, 2019 and 2014; Clinical Assistant Professor UW 2023.

Instructional Professor:

AMY RHOAD, B.S. Molecular Biology/Environmental and Natural Resources. University of Wyoming. May 2014 B.S. Instructional Professor UW 2022. Microbiology. University of Wyoming. May 2014; Ph.D. Animal and Veterinary Sciences. Department of Veterinary Sciences. Instructional Professor Since 2022.

Adjunct Professor:

GEOFFREY J. LETCHWORTH, B.S. Trinity College 1965; D.V.M. New York State College of Veterinary Medicine 1972; Ph.D. Cornell University 1980; Adjunct Professor of Veterinary Sciences 2001.

JENNIFER L. MALMBERG, B.S. Doane University 2004; M.A. Chadron State University 2013; Ph.D. Colorado State University 2018; Adjunct Professor of Veterinary Sciences 2022.

ALEXANDERU-FLAVIU TABARAN, DVM, Ph.D., MSc, Habil., Diplomate ACVP (Anatomic Pathology) Adjunct Professor of Veterinary Sciences 2022.

SAMANTHA ALLEN, BSc and MSc University of Guelph 2007 and 2010; DVM Ontario Veterinary College 2014; PhD University of Guelph 2021; Adjunct Professor of Veterinary Sciences 2021

KERRY SONDGEROTH, B.A. University of New Hampshire 1997; D.V.M. Colorado State University 2006; Ph.D. Washington State University 2013; Assistant Professor of Veterinary Sciences 2014. Associate Professor of Veterinary Sciences 2020.

Professors Emeritus

E. Lee Belden, Francis D. Galey, Bill Jolley, Merl Raisbeck, Lynn Woodard, Gerry Andrews, Myrna Miller

The Department of Veterinary Sciences and the Department of Animal Science have combined their efforts to offer B.S., M.S., and Ph.D. degrees in animal and veterinary science (see listing under this title). Several options within the

major are available including preveterinary medicine and animal biology. Undergraduate course offerings of the Department of Veterinary Sciences are listed under the title of pathobiology. They were designed to familiarize students with the principles of animal disease and the basic biological and biomedical sciences.

The department operates the Wyoming State Veterinary Laboratory, an animal disease diagnostic laboratory (wyovet.uwyo.edu). This laboratory provides valuable hands-on experience for students interested in laboratory animal care, laboratory procedures, and research. Excellent faculty mentors are available for students interested in preveterinary medicine, microbiology, and animal biology.

Animal and Veterinary Sciences

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the Bachelor of Science degree in animal and veterinary science. Courses in animal science, food science, and disease biology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

Several degree options allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements. A grade of C or better must be earned in the following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, 3100, 4120, 4540, 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, 2022.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Graduate Study

The Department of Veterinary Sciences offers advanced study leading to the Master of Science and doctor of philosophy in animal and veterinary science. Areas of emphasis include: pathology, molecular diagnostics, bacteriology, virology, parasitology, epidemiology, immunology, and toxicology of wild and domestic animals.

Program Specific Admission Requirements

Open to students with a Bachelor of Science degree who meet the requirements set forth in this Catalog.

Recommended prerequisites include: chemistry, biochemistry, animal anatomy and physiology, biology, microbiology, and introductory statistics.

Preferred Requirements

Competitive applicants for either degree program will have a GPA 3.250 or higher and high GRE scores (153 verbal, 149 quantitative, 302 total using best composite scores).

Department of Zoology and Physiology

114 Aven Nelson
(307) 766-4207
Web site: www.uwyo.edu/Zoology
Department Head: Robert S. Seville

Professors:

MERAV BEN-DAVID, B.S. Tel Aviv University 1984; M.S. 1988; Ph.D. University of Alaska 1996; Professor of Zoology and Physiology 2010, 2000.

MICHAEL E. DILLON, B.S. University of Texas, Austin 1998; Ph.D. University of Washington 2005; Professor of Zoology and Physiology 2021, 2009.

JACOB R. GOHEEN, B.S. Kansas State University 1998; M.S. Purdue University 2002; Ph.D. University of New Mexico 2006; Professor of Zoology and Physiology 2020, 2010.

MATTHEW J. KAUFFMAN, B.A. University of Oregon 1992; Ph.D. University of California, Santa Cruz 2003; Professor of Zoology and Physiology 2021, 2006.

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Associate Professor of Zoology and Physiology 2021, 2009.

FRANK J. RAHEL, B.A. Kenyon College 1974; M.S. University of Wisconsin 1977; Ph.D. 1982; Professor of Zoology and Physiology 1998, 1985.

ROBERT S. SEVILLE, B.S. San Diego State University 1981; M.S. University of Wyoming 1987; Ph.D. 1992; Professor of Zoology and Physiology 2011, 1995.

QIAN-QUAN SUN, B.Sc. Shandong Normal University 1990; M.S. 1993; Ph.D. St. Andrews University 1998; Professor of Zoology and Physiology 2016, 2004.

Associate Professors:

MATTHEW D. CARLING, B.S. University of Michigan 1997; M.S. University of Idaho 2002; Ph.D. Louisiana State University 2008; Associate Professor of Zoology and Physiology 2017, 2011.

ANNA D. CHALFOUN, B.A. Smith College 1995; M.S. University of MissouriColumbia 2000; Ph.D. University of MontanaMissoula 2006; Associate Professor of Zoology and Physiology 2016, 2011.

BRIAN D. CHERRINGTON, B.A. Washington University 1996; M.S. Colorado State University 2001; Ph.D. 2005; Associate Professor of Zoology and Physiology 2017, 2011.

AMY C. KRIST, B.A. State University of New York at Potsdam 1991; Ph.D. Indiana University 1998; Associate Professor of Zoology and Physiology 2017, 2004.

AMY M. NAVRATIL, B.S. Colorado State University 1999; Ph.D. 2005; Associate Professor of Zoology and Physiology 2019, 2011.

KARA PRATT, B.A.S. University of Delaware 1989; Ph.D. Brandeis University 2004; Associate Professor of Zoology and Physiology 2017, 2011.

COREY TARWATER, B.S. University of California, Davis 1999; M.S. University of Illinois, Urbana-Champaign 2006; Ph.D. University of Illinois, Urbana-Champaign 2010. Associate Professor of Zoology and Physiology 2022, 2015.

ANNIKA W. WALTERS, B.A. Princeton University 2002; M.S. Yale University 2006; Ph.D. 2009; Associate Professor of Zoology and Physiology 2019, 2011.

Assistant Professors:

NICOLE L. BEDFORD, B.S. University of British Columbia 2010; Ph.D Harvard University 2019; Assistant Professor of Zoology and Physiology 2021.

RILEY FEHR BERNARD, B.Sc. Linfield College 2007; M.Sc. University of Hawaii Hilo 2011; Ph.D. University of Tennessee 2015; Assistant Professor of Zoology and Physiology, 2020.

SARAH M. COLLINS, B.A. Lewis & Clark College 2007; Ph.D. Cornell University 2015; Assistant Professor of Zoology and Physiology 2018.

WILLIAM WARREN FETZER, B.S. University of Wisconsin-Madison 2005; M.S. Cornell University 2009; Ph.D. 2013. Assistant Professor of Zoology and Physiology 2020.

YUN LI, B.S. University of Science and Technology of Chine 1996; M.S. 1998; Ph.D. University of Texas Health Center at San Antonio 2003; Assistant Professor of Zoology and Physiology 2018.

JEROD A. MERKLE, B.S. University of Arizona 2006; M.S. University of Montana 2011; Ph.D. Univesité Laval 2014; Assistant Professor of Zoology and Physiology 2018.

ADAM C. NELSON, B.S. University of Montana 2001; Ph.D. University of Utah 2011; Assistant Professor of Zoology and Physiology 2021.

BRANDON ROBERTS, B.S. Washington State University 2009; Ph.D. Washington State University 2015; Assistant Professor of Zoology and Physiology 2023.

RAMMOHAN SHUKLA, B.S. College of Agriculture Nagpur 2004; M.S. Tamil Nadu Agricultural University 2006; Ph.D. National Institute for Basic Biology, Japan 2014 ; Assistant Professor of Zoology and Physiology 2023.

W.D. (TREY) TODD, B.S. Baylor University 2005; M.A. University of Iowa 2009; Ph.D. 2012; Assistant Professor of Zoology and Physiology 2019.

Assistant Professor of Practice:

BETHANN G. MERKLE, B.A. University of Montana 2007; M.F.A. University of Wyoming 2017; Assistant Professor of Practice 2021.

Senior Academic Professional Research Scientist:

ZHAOJIE ZHANG, B.S. Shandong University 1985; M.S. 1988; Ph.D. University of Oklahoma 1999; Director, Microscopy Core Facility, University of Wyoming 2001; Senior Research Scientist in Zoology and Physiology 2012.

Assistant Academic Professional Research Scientist:

JONATHAN PATRICK KELLEY, A.B. Harvard 2001; Ph.D. University of California, Davis 2012; Assistant Research Scientist in Zoology and Physiology 2018.

Professors Emeritus:

Craig W. Benkman, Harold L. Bergman, Steven W. Buskirk, Francis W. Flynn, Zoltan M. Fuzessery, Robert P. George, William A. Gern, Robert O. Hall, Henry J. Harlow, Wayne A. Hubert, Robert M. Kitchin, J.A. Lillegraven, Frederick G. Lindzey, James R. Lovvorn, Carlos Martinez del Rio, David B. McDonald, Graham Mitchell, James D. Rose, Joan Smith-Sonneborn

Academic Professional Lecturer Emeritus:

Jane Beiswenger

Wyoming Cooperative Fish and Wildlife Research Unit Unit:

Wyoming Cooperative Fish and Wildlife Research Unit Unit Leader: Matthew W. Kauffman
Assistant Unit Leader for Fisheries: Annika W. Walters
Assistant Unit Leader for Wildlife: Anna D. Chalfoun

Department of Zoology and Physiology

The Department of Zoology and Physiology offers a variety of courses in the biological sciences that encompass many aspects of animal form, function, and biology. Whether you are interested in the intricacies of cell biology or the complexities of ecosystem functioning and whether you want to become a wildlife biologist or a physician, we offer a major that will suit your needs.

Undergraduate Degrees:

Students can choose from three undergraduate degrees: physiology, wildlife and fisheries biology and management, or zoology.

Learning Outcomes for Undergraduates

The learning outcomes that direct the teaching of the department's degrees and which we expect our graduates to have acquired are:

- Competence in basic sciences;
- Competence in the content of the specific courses that constitute the principal knowledge of the degree;
- Ability to comprehend, analyze, and interpret biological data where appropriate; and

- Ability to synthesize information from the biological literature, and communicate it effectively in writing or orally.

Undergraduate Minors:

Minors in human and animal physiology, wildlife fisheries biology management, neuroscience, and zoology are offered.

Graduate Study

The Department of Zoology and Physiology offers programs leading to the master of science and the doctor of philosophy in zoology and physiology. We also participate in graduate programs through the Neuroscience Program and the Program in Ecology.

Program Specific Admission Requirements

Admission is open to all students who meet the minimum requirements set forth in the admissions section of this *Catalog*.

Research and teaching assistantships are available for graduate students working toward the M.S. or Ph.D. degrees. Applicants can apply for this financial assistance at the time they apply for admission to graduate standing. Applications must be completed by February 15 in order to be considered for the following academic year.

Information on how to apply to the graduate program in the Department of Zoology and Physiology is detailed on our web site. Begin by identifying a faculty member in our department whose research interests are similar to yours. We will only consider an application if a faculty member has indicated a willingness to serve as the student's adviser. After finding a potential adviser, e-mail a completed departmental application form, a copy of your curriculum vitae, copies of college transcripts, and recommendation letters to him or her. Our graduate admissions committee will review all applications and make decisions on admission based on the availability of funding and a commitment from a faculty member to serve as the adviser. Students recommended for admission will then be asked to fill out an application to the University of Wyoming and pay a non-refundable application fee.

Consult the website, www.uwyo.edu/zoology, to find out about faculty research.

Learning Outcomes for M.S. Students

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. College and analyze data to address a research question.
3. Summarize research findings and communicate them effectively in writing and orally.

Learning Outcomes for Doctoral Students

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. Develop a research project which constitutes a substantial and original contribution to the field of study.
3. Summarize research findings and communicate them effectively in writing and orally.

Microbiology Program: Interdepartmental major

5004 Agriculture Building, (307) 766-3139
FAX: (307) 766-3875
E-mail: microbiology@uwyo.edu
Program Director: Interdepartmental Microbiology Steering Committee

Microbiology is the study of life forms too small to be observed without the aid of magnification. Major groups of microbes include the bacteria, fungi (yeasts and molds), protozoa, and algae, as well as the viruses. In addition, related disciplines such as immunology and molecular biology are included because of their historical origins within microbiology.

As such, the science of microbiology is divided into numerous subspecialty areas that reflect not only the individual groups of microbes (e.g., bacteriology, virology, mycology, etc.), but also their significance in applied areas (e.g., medical microbiology/infectious diseases, microbial ecology, food microbiology, industrial microbiology, biotechnology, etc.) or in areas of basic science (e.g., molecular genetics). Throughout its history, microbiology has played a key role in the development of our understanding of basic biochemical and genetic processes, control of infectious diseases, production of increased and improved food supplies, and the production of numerous commercial products. With the development of molecular techniques to construct genetically engineered microbes, microbiologists will continue to make expanding contributions in these and other areas.

Because microbiology is a diverse science, individuals trained as microbiologists find exciting career opportunities in many areas of the basic and applied sciences. Typically, microbiologists are employed in five major sectors: private industry; clinical laboratories; government agencies; universities and various other settings such as water treatment, food production/inspection facilities, and other public health-related areas. Recent manpower assessment studies at both the national and regional levels have provided evidence for a continuing and expanding need for microbiologists such that successful undergraduate students completing this program may look forward to exciting careers. In addition, undergraduates trained in the microbiological sciences are well prepared for competitive application to graduate school programs and professional programs in human or veterinary medicine, optometry or dentistry.

The Bachelor of Science degree program in microbiology is organized as an interdepartmental major involving the collaborative teaching, advising, and research expertise of microbiology faculty from the College of Agriculture, Life Sciences and Natural Resources, Haub School of Environment and Natural Resources, and College of Health Sciences. The program is administered by a Program Director and the Interdepartmental Microbiology Steering Committee, representing each of the participating colleges. Students obtain their degree in the College of Agriculture, Life Sciences and Natural Resources. Additional information about the microbiology program may be obtained at the following website address and by contacting the Program Director or one of the members of the Interdepartmental Microbiology Steering Committee listed below.

www.uwyo.edu/uwag/departments/microbiology.html

- BERIT BANGOURA, Veterinary Sciences
- BLEDAR BISHA, Animal Sciences
- GRANT BOWMAN, Molecular Biology
- ELIZABETH CASE, Veterinary Sciences
- BRIDGET DECKER, Molecular Biology
- JASON GIGLEY, Molecular Biology
- MARK GOMELSKY, Molecular Biology
- MYRNA MILLER, Veterinary Sciences
- EUNSOOK PARK, Molecular Biology
- KERRY SONDGEROTH, Veterinary Sciences
- HOLLY STEINKRAUS, Molecular Biology
- LINDA VAN DIEPEN, Ecosystem Science and Management
- DANIEL WALL, Molecular Biology
- RACHEL WATSON, Haub School of Environment and Natural Resources

- JOHN WILLFORD, WWAMI Medical Education Program
- KASSANDRA WILLINGHAM, Molecular Biology

Life Sciences Program

Life Sciences Program

107 Aven Nelson Building

Program Director: Jonathan Prather

Associate Director: Christopher North

The Life Sciences Program consists of all LIFE prefix courses. These courses support life science majors and non-life science majors across campus. The foundational curriculum provides science majors with both breadth and depth in the basic life sciences, and non-science majors with key concepts in biology as well as an understanding of the connections between science and society. Courses familiarize students with the diversity of life and expand upon the fields of cell and molecular biology, genetics, ecology, and evolution.

Courses within the curriculum emphasize four fundamental goals at a level appropriate for each course:

1. Acquisition, Application and Synthesis of Knowledge

2. Communication Skills

3. Critical Thinking and Problem Solving

4. Research Skills

Professor:

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Professor of Zoology and Physiology 2021, 2009.

Ranch Management & Agricultural Leadership

College of Arts & Sciences

113 Arts and Sciences Building

J. Scott Turpen, Dean
Phone: (307) 766-4106 FAX: (307) 766-2697
Web site: www.uwyo.edu/as

Aims and Objectives

The College of Arts and Sciences (A&S) is committed to providing a balanced education that matches cultural breadth with disciplinary depth. Students learn to address complex contemporary problems and to place them in their wider social, historical, and ethical contexts. To achieve these goals, degree programs require students to develop expertise in a particular field, gain critical understanding of major areas of human knowledge, and select from required courses and free electives to prepare for the challenges of the 21st century.

A successful student in any program in the College of Arts and Sciences will have an excellent foundation for professional success, graduate study, and a passion for lifelong learning.

Through hands-on research and creative projects (either faculty projects or independent projects with faculty mentoring), fieldwork, internships, and study abroad, students integrate classroom learning with real-world experience and application.

Student Responsibilities

To graduate from the College of Arts and Sciences, students must satisfy all university, college, and major requirements for a given degree. These requirements apply whether the work is taken within the college or transferred from anywhere else within or outside the university (refer to section below "Acceptance of Transfer Credit").

The college holds students responsible for completing degree and major requirements, including the necessary courses. Students are also expected to know the academic standards, communicated in university regulations, that must be maintained to continue study at the university. Students should be aware that changing majors and/or colleges may result in delays in meeting degree requirements and that requirements themselves sometimes change (see "Graduation Requirements and Procedures" section of this *Catalog*).

Academic Advising

To help plan a program of study, an academic advisor in the College of Arts and Sciences Advising Center is assigned to each student. Students who are undecided about a major are advised in the UW Advising, Career, and Exploratory Studies office (222 Knight Hall).

Students should consult regularly with their academic advisor not only for course scheduling but also to discuss educational and career goals. Faculty and professional advisors can connect students to the many college and university resources to assist undergraduate study. Instructors are also willing to discuss concerns students may have regarding specific courses.

Changing/Declaring a Major or Minor

When ready to declare or change a major, minor, or dual/concurrent major in a program in the college, a student can obtain the appropriate form from the Office of the Registrar (167 Knight Hall) or the Registrar's Web page. Approval is required from the appropriate Department Heads or Program Directors, and a new advisor may be assigned.

Programs of Study

Undergraduate Degrees

A variety of specialized concentrations are offered within many of the following degree programs. These are described in the Department sections of this *Catalog* and/or in the Departments' individual websites. Additionally, there are several inter-college or interdisciplinary degrees/majors such as International Studies and the affiliated major in Environment and Natural Resources that draw courses from several disciplines. For more detailed descriptions, click on the A-Z Directory.

Bachelor of Arts

African American and Diaspora Studies
American Studies
Anthropology
Art Education
Art History
Communication
Criminal Justice
English
French
Gender and Women's Studies
German
History
International Studies
Journalism
Music
Native American and Indigenous Studies
Philosophy
Political Science
Religious Studies
Sociology
Spanish
Studio Art
Theatre and Dance

Bachelor of Science

Communication
Political Science
Psychology

Bachelor of Fine Arts

Studio Art
Theatre and Dance, Acting Performance Concentration
Theatre and Dance, Musical Theatre Performance Concentration
Theater and Dance, Theatre English Concentration
Theatre and Dance, Dance Performance Concentration
Theatre and Dance, Dance Science Concentration
Theatre and Dance, Design Tech Management Concentration
Visual Communication Design

Bachelor of Music

Jazz Performance
Music Education
Music Performance

Graduate Degrees

Master of Arts

American Studies *(interdisciplinary)*
Anthropology
Communication
English
History
International Studies *(interdisciplinary)*
Political Science
Spanish

Master of Science

Psychology

Master of Fine Arts

Creative Writing

Master of Music

Master of Music Education

Master of Public Administration

Doctor of Philosophy

Anthropology
Psychology

Minors in Arts and Sciences

The College of Arts and Sciences offers all university students systematic studies leading to recognized academic minors. Minors are available in all academic programs in the college and in numerous interdisciplinary areas.

A&S minors have two aims: to encourage students to create a focus for their course-work outside their major by coordinating their elective studies; and to enhance opportunities for employment or graduate admission with a formally recognized field of study.

Minors consist of course requirements ranging from 18-24 credit hours of study, typically including significant work at the junior and senior level. A&S departments and programs offering minors and interdisciplinary degrees may have further conditions and restrictions regarding requirements in the minor. To be counted toward a minor, courses must be completed with a grade of C or better.

Students desiring a minor must notify the department in which the minor is offered. Forms for declaring a minor are available in the Office of the Registrar (167 Knight Hall) or on the Registrar's Web page (see Change of Major form).

An advisor for the minor will be assigned by either the College of Arts and Sciences Advising Center or, in some cases, the department of the minor.

For detailed descriptions of the minors in A&S, see Department offices or websites.

Minors available from A&S Departments/Schools include:

Department of Anthropology
Anthropology

Department of Communication and Journalism
Communication
Journalism
Marketing Communication
Public Relations

Department of Criminal Justice and Sociology
Criminal Justice
Interdisciplinary Pre-law
Sociology

School of Culture, Gender, and Social Justice
African American and Diaspora Studies
American Studies
Gender and Women's Studies
Latina/o Studies
Native American and Indigenous Studies
Queer Studies

Department of English
Creative Writing
Literary Studies
Professional Writing

Department of History
History

School of Politics, Public Affairs, and International Studies
American Politics
Asian Studies
European Studies
International Relations and Comparative Government
International Studies
Middle East and North Africa
Political Theory
Public Law

Department of Modern and Classical Languages
Chinese
Classical Civilization
French
German
Japanese
Latin
Spanish

Department of Music
Music

Department of Philosophy and Religious Studies
Environmental Values
Ethics
Philosophy
Religious Studies

Department of Psychology
Aging Studies
Psychology

Department of Theatre and Dance
Acting Performance
Dance
Design, Technology, and Management
Musical Theatre Performance
Theatre
Theatre Dramaturgy
Young Audiences

Department of Visual Arts
Art History
Ceramics
Digital Media
Drawing
Metalsmithing
Museum Studies
Painting
Photography
Printmaking
Sculpture

Certificates
American Studies
Audio Technology
Arts Entrepreneurship

College Degree Requirements- The 2015 A&S Core

Bachelor of Arts or Science Programs

Beginning fall 2015, new university and college general education curricula, the 2015 University Studies Program (USP) and the 2015 A&S Core, were implemented. Refer to the USP section of this *Catalog* for details regarding University Studies requirements.

Students who matriculate for the first time at UW or a Wyoming community college in fall 2015 or after are required to follow both the new USP and A&S Core curricula. Students transferring from a Wyoming community college with an Associate's degree, having completed the Wyoming Core between May 2013 and fall 2015, may continue to complete the 2003 USP and 2003 A&S Core requirements (if there has been no interruption in their enrollment for a year or more). Students who matriculated at UW or a Wyoming community college prior to fall 2015 and choose the 2015 USP

must also complete the 2015 A&S Core requirements. For additional information please refer to the sections in this *Catalog* that describe the university graduation requirements, the 2015 University Studies Program, and the policies for re-enrolling at UW after an absence of a year or more.

I. College credit hour requirements

A. **Minimum total semester hours 120**
B. **Upper-division credit requirements (42).** Thirty of the 42 hours must be earned from UW. Courses must be taken for a letter grade unless offered for S/U only. This is an all-university requirement for all degree programs and may come from the courses that fulfill the USP, the A&S Core, the major, the minor, and electives.
C. **Major field of study (30-60).** In addition to attaining all credits required by the major, students are required to earn 60 credits outside the major. Credits in AS internship, independent study, or special topics courses (AS 2400, AS 2490, AS 4400, AS 4500, AS 4510, AS 4900, and AS 4975) may not be used to fulfill these outside the major requirements. At least 30 hours of C grade or better must be earned in the major subject (the major may require more). Courses in the major must be taken for a letter grade unless offered for S/U only.
D. **A&S Core requirements (6).** Courses must be taken for a letter grade unless offered for S/U only.

All other university and college regulations apply. See the "Graduation Requirements and Procedures" section of this *Catalog* for more information. Graduate level "Enrichment" courses do not count toward the requirements for a bachelor's degree.

II. 2015 A&S Core Curriculum

Graduates of the College of Arts and Sciences are expected to be liberally educated, to have the knowledge and skills to deal with the unexpected, and to see opportunities from multiple perspectives. To develop these abilities, the college faculty implemented the A&S Core.

Search in WyoWeb (find WyoRecords, then Register for Classes, then Browse Classes) to find upcoming courses meeting the following requirements:

1. **U.S. Diversity (ASD).** This requirement allows students to explore the complexity of cultural identities in the U.S. and interdependence of the cultures. Students will gain an understanding of the influences of categories such as race, class, ethnicity, gender, disability, sexual orientation, religion, and age on American behaviors, institutions, values, and beliefs.
2. **Global Awareness (ASG).** Because citizens ever more frequently encounter behaviors and practices based on beliefs, conditions, and assumptions different from their own, they need to understand the nature and function of culture. Our students should have an awareness of the multiple links that affect the living conditions and range of action of peoples of the world, including international systems of commerce, art, science, technology, politics, communication, belief, and justice, among others.

College Degree Requirements Prior to Fall 2015 for Continuing and Reenrolling Students

A&S Core requirements for a student continuing a degree program in effect at the time of matriculation at UW are found in the relevant previous *Catalog*. Contact the A&S Advising Center, Ross 6, 766-4013, asadvise@uwyo.edu.

Students who re-enter the university after an absence of a year or more should refer to other sections of this Catalog for university policies and procedures. Unless approved otherwise, reenrolling students, after a year's absence, are required to follow the University Studies and A&S Core requirements in effect the semester of their re-enrollment. However, all

majors in A&S who have yet to complete the A&S Core, regardless of their initial enrollment, must refer to the current list of approved courses.

Lists of courses that satisfy A&S college core requirements are available on the Web at www.uwyo.edu/as. Assistance with learning to Browse classes and to understand the Degree Evaluation can be obtained from the A&S Advising Center, Ross 6, 766-4013, asadvising@uwyo.edu.

Departments and programs in the College of Arts and Sciences may require reenrolling students to complete requirements in the major that meet the current expectations of the discipline.

Transfer Students and Acceptance of Transfer Credit

The College of Arts and Sciences and its Departments reserve the right to grant transfer credit toward the bachelor's degree only for those courses where a grade of C or better was earned. Students transferring credits from a university or college outside Wyoming with questions about how courses taken elsewhere fulfill the A&S Core may contact the A&S Advising Center, Ross 6, 766-4013, asadvise@uwyo.edu.

Courses Taken for S/U Credit

Students may include up to 20 semester credit hours in free electives with a grade of S as part of the total hours required by the College of Arts and Sciences for graduation. However, no S/U hours may be used to satisfy university and college core general education requirements or major requirements, including the required 42 upper-division credit hours unless the course is offered for S/U grading only.

Students registering in courses for S/U grades are subject to all general regulations.

Concurrent Majors

Students may pursue two or more majors simultaneously. With careful planning, A&S students may be able to use all or most of the free elective hours for requirements in the other majors. Refer also to the section, "Graduation Requirements and Procedures" in this *Catalog*.

The A&S Core must be met only once by students whose primary major is in the College of Arts and Sciences. Students whose degree programs are in other UW colleges are welcome to earn a concurrent major in A&S. These students do not have to meet the A&S Core requirements. The student earns one degree with one diploma.

Students pursuing a concurrent major must contact both departments involved for assignments to advisors.

Dual Degrees

Students may simultaneously pursue degrees in the same or more than one UW college. In addition to requirements described in the section "Graduation Requirements and Procedures" in this *Catalog*, students in another UW college who wish to earn a degree from A&S must also complete the A&S Core. A&S students working on dual degrees in the A&S College need to meet the A&S Core just once. A diploma is awarded for each degree.

Each additional degree requires 30 more credit hours added to the 120 credits to the primary degree. Of these 30 credits, 12 must be at the 3XXX-4XXX levels.

Second Bachelor's Degrees

For those students whose **first degree is from another university** and who seek a second bachelor's degree from the College of Arts and Sciences, the minimum requirements include:

- 30 semester hours earned from the University of Wyoming, 12 of which must be upper division (3XXX-4XXX level) or graduate level (credit by examination does not count as UW hours).
- Completion of the U.S. and Wyoming Constitutions requirement (V courses in the University Studies Program course list in this *Catalog*).
- *If the first degree is from an institution where English is not the predominant language*, successful completion of the COM1 and COM2 requirements of the University Studies Program is required.
- Students must also meet the 2015 A&S Core requirements.

For students whose **first degree is from UW**:

- The additional required 30 hours (12 of these at the 3XXX-4XXX) are added to the degree requiring the least number of hours. For example, for a first degree, A&S requires 120 hours. Thus, the total credits a UW student would have to complete for the second bachelor's degree is a minimum of 150 credits. Since the University requires a total of 42 upper division hours for a degree, for the second degree from A&S, a UW student would need to earn a total of 54 hours at the 3XXX-4XXX level. For more information, please see the Second Bachelor's Degree entry in the section, "Graduation Requirements and Procedures" in this *Catalog*.
- Students whose **first degree is from another UW college** must meet the 2015 A&S Core requirements.
- In situations in which a student is subsequently required to take coursework from another collegiate institution to fulfill major and overall hour requirements for a second degree from the university, the student's department can ask the Office of the Registrar to load selected courses into the student's record.

Concurrent Major in Environment and Natural Resources

A student majoring in any A&S department/program may earn a double major by completing the courses required for the Environment and Natural Resource (ENR) program in addition to the requirements in their A&S major and the College A&S Core. See the Haub School of ENR Web site, http://www.uwyo.edu/enr for detailed information or contact the School at (307) 766-5080.

Preprofessional Studies

The College of Arts and Sciences prepares students to enter professional schools through preprofessional programs of study described below.

Prelaw Study. Students usually need a bachelor's degree prior to beginning the study of law. There is no prescribed course of undergraduate study and no restrictions as to the field in which the degree is earned. However, to prepare for this competitive profession, prelaw students are advised to select courses that help to develop those talents and skills essential to the study and practice of law. Logical and critical thinking, conflict evaluation/resolution and effective verbal/nonverbal communication skills are essential. Additionally, students should understand the political, economic, social/cultural institutions, and values that characterize human society. Rigorous courses in any discipline increase abilities in these areas. Pertinent to the prelaw major, courses in the broad liberal arts, including the sciences, social sciences, fine arts, and humanities, increase understanding of the public's diverse interests and backgrounds.

Prelaw students do not have to declare a major at the time of first enrollment if they wish to explore options. Students who are undeclared in the College of Arts & Sciences are assigned advisors in the Advising, Career, and Exploratory Studies office until they decide upon a degree program. Please note that a prelaw minor is available.

In addition to consulting their major advisor, prelaw students may contact the designated UW prelaw advisor for assistance in developing a program of study, for career counseling, and for guidance in applying to law schools. Contact the A&S Advising Center, Ross 6, 307-766-4013, asadvise@uwyo.edu for information.

Detailed information about applying to law schools, the Law School Admissions Test (LSAT) and preparation materials, and links to other websites are at www.LSAC.org.

Library Preprofessional Study. Librarians are information professionals who research, organize, and classify materials so the public can access information. Not only do they work with printed materials, but all the technological advances in digital media such as electronic databases and eBooks. Some librarians focus on teaching the public, scholars, and students how to access and use these materials, while others concentrate on collecting and maintaining these diverse resources. Librarianship offers many career opportunities to people of different academic backgrounds, interests, and talents. Most public, academic, and special libraries require librarians to have a Master's Degree in Library Science (MLS).

The degree programs and minors in the College of Arts and Sciences offer the variety of academic preparation expected by accredited library schools in the country. Most graduate schools in library science require a successful applicant to have a Bachelor's degree, a good undergraduate record, and a reading knowledge of a foreign language for admission. The best undergraduate preparation includes a wide range of courses in the sciences, social sciences, and humanities along with a strong concentration in one subject area. The choice of a major will be determined by the student's academic interest and professional objective. The general education that the University Studies and the A&S Core require provide the well-rounded background graduate schools expect of MLS candidates.

Additional information about library schools, their requirements, and programs as well as career opportunities may be obtained from the reference desk at Coe Library and the Center for Advising and Career Services. The U.S. Bureau of Labor Statistics "Occupational Outlook Handbook" at www.bls.gov/ooh/ has detailed descriptions of the varied work of librarians, working conditions, employment outlook, and sources for additional information.

Pre-Health Study. Students in several A&S majors may be working toward the following careers: athletic training, chiropractic, dentistry, medicine, occupational therapy, optometry, physical therapy, physician assistant, or public health. These professional schools are favorably impressed by a broad educational background, including a substantial number of non-science and science courses; therefore, students are well advised to look beyond the minimum requirements.

Students may select any major in which they are interested to prepare for such careers. In addition to completing all university, college and departmental requirements, students must include in their curriculum the basic professional school requirements, including courses in biology, chemistry, math, and physics. Professional schools have other specific requirements and students should seek information about any additional recommendations from the professional schools in which they are interested. We strongly suggest contacting the Pre-Health Advising office [College of Health Sciences, 110 Health Sciences, (307) 766-3878, or hsadvise@uwyo.edu] website: www.uwyo.edu/preprof/.

Psychology is a common major in the College of A&S for these preprofessional programs. However, there are pre-health students in programs as diverse as Anthropology and Theatre & Dance. Students need not declare a major immediately upon first enrollment. Advisors in individual departments can discuss options or, if students wish to remain undeclared, they are advised in either the UW Advising, Career, and Exploratory Studies office or the Health Sciences Advising office.

The pre-health advisors in the College of Health Sciences have current information regarding professional school admission requirements, entrance examinations, programs in Western Interstate Commission on Higher Education (WICHE), the Wyoming Medical Contract Program WWAMI (affiliated with the University of Washington School of Medicine) and financial assistance for professional education. The website, http://www.uwyo.edu/preprof/ includes additional information.

Internships

Many departments in the College of Arts and Sciences offer internships for academic credit, and some provide monetary compensation. Academic internships provide practical, hands-on experience in a professional job setting as a complement to classroom instruction. An internship can provide students with both insight and preparation for future jobs. All internships require a strong background in writing, organizational ability, and analytic skills. Junior or senior standing is recommended.

The School of Culture, Gender, and Social Justice

Ross Hall, Room 224

(307) 766-3122

Web site: **www.uwyo.edu/scgsj**

School Head: **Stephen Dillon**

SCGSJ Faculty

Professors:

ULRICH ADELT, M.A. University of Hamburg, Germany 2000; Ph.D. University of Iowa 2007; Associate Professor of American Studies 2015, 2009.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Professor of Law 2008, 2002.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

FRIEDA E. KNOBLOCH, American Studies; School of Culture, Gender and Social Justice; Creative Writing

TRISHA MARTINEZ, B.A. University of Wyoming 2011; M.A. University of New Mexico 2014; Ph.D. University of New Mexico 2019.

TRACEY OWENS PATTON, B.A. Colorado State University 1993; M.A. 1996; Ph.D. University of Utah 2000; Professor of Communication and Journalism 2012, 2003.

MARGARITA PIGNATARO, B.A. Florida State University; M.A. Arizona State University, Ph.D.; Visiting Assistant Professor of Latina/o Studies 2018.

Associate Professor:

LILIA SOTO, B.A. University of California - San Diego 2000; M.A. University of California - Berkeley 2003; Ph.D. 2008; Associate Professor of American Studies and Latina/o Studies 2017, 2010.

SAMANTHA L. VANDERMEADE, B.A., Appalachian State University, 2009; M.A., North Carolina State University, 2015; Ph.D., Arizona State University, 2020; Visiting Assistant Professor of Gender and Women's Studies 2020.

Assistant Professor:

JESSICA F. NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of Native American and Indigenous Studies 2019.

Associate Lecturer:

ALISON QUAGGIN HARKIN, B.A. Trinity College at the University of Toronto 1981; M.A. Athabasca University 2010; Assistant Lecturer of Gender and Women's Studies 2019.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 2002.

ROBYN LOPEZ, A.A. Central Wyoming College 2004; B.A. University of Wyoming 2007; M.A. University of Hawai'i at Mānoa; Assistant Lecturer of Native American and Indigenous Studies 2019.

Lecturers:

JASCHA HERDT, B.A. University of Wyoming; M.A. 2011.

ERIC D. JOHNSON, B.A. University of Alabama 2003; MA, University of Iowa 2009; Ph.D 2021.

CHAD D. ROBINSON, B.S. Northewestern University 1992; MA, City University of New York 2006; M.S. Mercy College 2008.

Senior Research Scientist:

ANDREA GRAHAM, American Studies; School of Culture, Gender and Social Justice

Professors Emeriti:

Cathy Connoly, Colleen Denney, John Dorst, Janice Harris, Susan McKay, Eric Sandeen

Adjunct Faculty:

(see department section following name for academic credentials)

African American and Diaspora Studies

Undergraduate Studies

The population of Black America has nearly doubled in Wyoming since the year 2000. As the population becomes more diverse it is important to provide students with a background in multicultural relations so that they are prepared for the global workforce. We intend to provide students with the necessary knowledge to prepare them to participate in an increasingly interconnected world. Therefore, African American and Diaspora Studies offers a bachelor of arts (B.A.) and an undergraduate minor in African American and Diaspora Studies.

Students may access a copy of the undergraduate major and minor check sheets at www.uwyo.edu/aads/major-minor/index.html.

At present, no program for graduate degrees in African American and Diaspora Studies is offered; however, some courses may be counted at the graduate level.

American Studies

American Studies explores American cultural experience past and present, through a wide range of approaches to American lives, places, arts, knowledges, communities, institutions, histories, and ideas. American Studies is an integrative field that comes from and adds to the context of our cultural lives in the U.S. and the U.S. in the world. American Studies frames present concerns with engagement with the past; expects us to engage people's experiences in the context of a diversity of experiences; and invites us to understand our own commitments and interests as valuable contributors to American cultural understanding. American Studies as a field depends on and adds to insights of scholars, artists, and scientists from virtually any field of expertise.

The American Studies program offers undergraduate B.A. and graduate M.A. degrees in American Studies, as well as courses of general interest to students in any degree.

Our program places special emphasis on studying American cultures through field experiences and internships: students apply academic knowledge and develop professional skills in community and non-profit organizations, historic preservation efforts and organizations, historic sites, museums and collections, among many possibilities. Every internship is developed in close consultation between the students and our Internship Coordinator, and frequently stems from a student's general idea about where or with whom they'd like to work, in Laramie or Wyoming, in other parts of the U.S., or sometimes abroad. Our program also highlights international perspectives, as well as the transnational context of American impacts and experiences, in course work and exchanges available to American Studies students.

American Studies puts people and their plans together building career goals in K-12 education, law, or business, work in community organizations and public institutions, or further graduate-level study.

Native American and Indigenous Studies

The Native American and Indigenous Studies offers an academic major at the undergraduate level and a minor at both the undergraduate and graduate level. This interdepartmental course of study examines Native North American cultural and social life, as well as Indigenous cultural and social life globally, including economic, political, and educational systems. Historical and contemporary perspectives of American Indian and global Indigenous experiences are included in this program.

Students may choose a NAIS studies minor to complement a major field of study. Related disciplines include American studies, anthropology, art, ethnic studies, geography, history, law, music, philosophy, political science, and sociology. A minor in Native American and Indigenous Studies provides excellent preparation for teachers, researchers, social workers, healthcare providers, resource managers, economic developers, and legal practitioners.

Gender and Women's Studies

The Gender and Women's Studies Program offers an interdisciplinary course of study that examines the relevance of sex, gender and sexuality in history, societies, and cultures. Students may earn a major, minor, or graduate minor in Gender and Women's Studies, or a minor or graduate minor in Queer Studies.

Program Learning Objectives

Students graduating with a degree in Gender and Women's Studies will have skills to apply in a variety of settings indicated by their ability to:

- Engage in intersectional, interdisciplinary feminist analysis.
- Analyze socio-historical and contemporary power dynamics underpinning group relations, social institutions, and systems of representation.
- Situate their analyses within various place-based contexts, including the rural, local, community, transnational, and global.
- Understand and articulate the history, strategies, and goals of interconnected movements for social justice.
- Demonstrate mastery of critical thinking skills necessary to succeed in diverse, 21st century work forces and communities.

NOTE: Gender & Women's Studies recently changed all course prefixes to GWST (from WMST). All former WMST courses will count toward Gender & Women's Studies degree programs.

Latina/o Studies

Learning Outcomes

Latina/o Studies courses emphasize perspectives that are historical and contemporary, theoretical and practical, as well as critical and aesthetic. These perspectives help to develop an understanding of oppression and resistance, at the individual, institutional, and ideological levels.

Upon completion of the University of Wyoming Latina/o Studies minor curriculum, students will have an awareness and appreciation for the Latina/o experience. Particularly as the Latina/o experience is expressed in the following

concepts and principles of organic insight, relational awareness, historical perspective, power for social change, intersectionality, and aesthetics.

1. *Organic Insight* - The development of a contextual framework for understanding one's own and others' experiences in relation to the Latina/o experience.
2. *Relational Awareness* - The development of a theoretical framework for understanding how institutional social structures impact individuals, families, and communities, and in turn, how individuals, families, and communities impact social structures through resistance, social agency, and change.
3. *Historical Perspective* - The development of a critical historical viewpoint for understanding how struggles around social, economic, and political forces have shaped the traditional and contemporary Latina/o Diaspora.
4. *Power for Social Change* - The development of a critical consciousness, which is necessary for a social praxis that combats oppressive racist ideologies and social structures that perpetuate individual and institutional inequalities.
5. *Intersectionality* - Gaining an awareness of the intersection of race, ethnicity, class, gender, and sexual orientation as it plays out organically, relationally, historically, and politically.
6. *Latina/o Aesthetics* - The development of an appreciation and awareness of the aesthetics evident in Latina/o art, music, theatre, literature, and other artistic expressive forms and styles.

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. Two of those courses (6 hours) must include the required foundation courses, and the remaining courses (12 hours) can be selected from the other areas of studies listed below.

Department of Anthropology

106 George C. Frison Building,
(307) 766-5136
FAX: (307) 766-2473
Web site: www.uwyo.edu/anthropology
Department Chair: Melissa S. Murphy

Professors:

JAMES AHERN, B.A. Beloit College 1991; M.A. Northern Illinois University 1993; Ph.D. University of Michigan 1998; Professor of Anthropology 2014, 2000.

MARCEL KORNFELD, B.A. University of New Mexico 1974; M.A. University of Wyoming 1982; Ph.D. University of Massachusetts-Amherst 1994; Professor of Anthropology 2008, 1996.

MELISSA S. MURPHY, B.A. Haverford College 1994; Ph.D. University of Pennsylvania 2004; Professor of Anthropology 2021, 2008.

TODD SUROVELL, B.S. University of Wisconsin-Madison 1995; M.A. University of Arizona 1998; Ph.D. 2003; Professor of Anthropology 2015, 2003.

Associate Professors:

PAMELA INNES, B.A. Bryn Mawr College 1986; M.A. University of Oklahoma 1992; Ph.D. 1997; Associate Professor of Anthropology 2007, 2001.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Associate Professor of History and Anthropology 2021, 2014.

JASON TOOHEY, B.A. University of California Santa Barbara 1995; M.A. California State University Northridge 2000; Ph.D. University of California Santa Barbara 2009; Associate Professor of Anthropology 2017, 2011.

Assistant Professors:

ALLISON CAINE, B.A. Bates College, 2007; M.Sc. University of Edinburgh 2010; Ph.D. University of Michigan 2019; Assistant Professor of Anthropology 2022.

BRIANA DOERING, B.A. Barnard College, Columbia University, 2012; M.A. University of Michigan 2016; Ph.D. 2020, Assistant Professor of Anthropology 2020.

SEAN FIELD, B.A. Northern Colorado University 2015; M.A. University of Nebraska 2017; M.A. Notre Dame University 2019; Ph.D. Notre Dame University 2023; Assistant Professor School of Computing and Anthropology 2023.

RANDY HAAS, B.A. Northern Arizona 2001; M.A. Northern Arizona University 2003; Ph.D. University of Arizona 2014; Assistant Professor of Anthropology 2023.

LAUREN HAYES, B.A. Wake Forest University 2006; M.A. University of Arizona 2006; Ph.D. University of Arizona 2017; Assistant Professor of Anthropology 2023.

JESSICA NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of School of Culture, Gender, and Social Justice 2019.

NIKOLAS SWEET, B.A. Virginia Tech, 2005; M.A. University of Michigan 2014; Ph.D. 2019; Assistant Professor of Anthropology 2022.

Adjunct Faculty:

Adams, Budowle, Gardner, Janković, Karavanić, Kitchel, Lynch, Mackie, Miller, Olujić, Pelton, Peterson, Raguž, Rapson, Stadbauer, Todd, Walker, Wilkinson

Lecturers:

James Johnson

Professors Emeriti:

George W. Gill, Michael E. Harkin, Robert L Kelly, Mary Lou Larson, Lin A. Poyer, Charles A. Reher, Audrey C. Shalinsky

The department of Anthropology promotes the understanding of humankind from an integrated, holistic approach which examines past, present and future trends in cultural, biological and linguistic diversity and uniformity. Though the department serves undergraduate and graduate majors who will become professional anthropologists or will pursue

other related careers, it also provides information to a large number of non-majors and to the larger community regarding cross-cultural issues. Furthermore, because of its commitment to the four field approach including biological anthropology, archaeology, cultural anthropology and linguistic anthropology, the department fosters among its students an awareness of the interrelatedness of scientific concepts, methods and theories, and the humanistic foundation of scientific inquiry. The Department of Anthropology prepares its students both to understand the cultural resources of Wyoming and to participate as informed citizens in an increasingly complex global community.

Undergraduate Major

The Anthropology B.A. program has the following learning outcomes:

1. students demonstrate knowledge about the four fields of anthropology and their interrelationship,

2. students participate in a research experience and understand its process, and

3. students demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

In addition to university and college requirements listed in this Catalog, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. Specific requirements for a B.A. in anthropology are ANTH 1100, 1200, 1300, and 2000. Students must complete ANTH 3300 or ANTH 3310. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975. Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology). Courses that can be used to fulfill upper division cultural anthropology are ANTH 4023, 4300, 4310, 4320, 4325, 4330, 4340, 4350, 4380, 4020 (with instructor's consent). Courses that can be used to fulfill upper division linguistic anthropology are ANTH 4024, 4740, 4765, 4775, 4785, 4795, 4020 (with instructor's consent). Courses that can be used to fulfill upper division biological anthropology are ANTH 4022, 4210, 4215, 4220, 4230, 4255, 4260, 4020 (with instructor's consent). Courses that can be used to fulfill upper division archaeology are ANTH 3900, 4021, 4110, 4115, 4120, 4125, 4130, 4145, 4150, 4160, 4170, 4175, 4020 (with instructor's consent), or six credits of archaeological field school (ANTH 4140 or 5180). It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

At the completion of the Bachelor of Arts degree in Anthropology, students will be able to demonstrate knowledge about the four subfields of anthropology and their interrelationships; they will have participated in a research experience and understand its process; and, they will demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

Undergraduate Minors

The Anthropology undergraduate minor has the following learning outcomes:

1. students learn sufficient subfield information to complement a variety of disciplines,

2. students learn basic methods of the discipline, and

3. students learn basic theories/ types of subfield explanation.

The minor for non-anthropology majors requires two of the introductory courses: ANTH 1100, 1200, 1300, 2000, and 11- 12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level. See the anthropology web site for more details.

Teacher Education

Anthropology courses may be used to complete part of the requirements for teacher certification in social studies.

Graduate Study

The department offers programs of study leading to Master of Arts and Doctor of Philosophy degrees in Anthropology. Check Anthropology department web pages for any updates.

Program Specific Admission Requirements

Master's Program

The Anthropology M.A. program has the following learning outcomes:

1. students will be able to explain the content of the "four fields" of anthropology and their interrelationship in written and oral formats,

2. students will have experience in original research, and

3. students will develop skills which foster professionalism as related to their chosen field.

Deadline for application is February 15 for the following fall. See graduate admission requirements. Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

The Department of Anthropology requires that at least two of the recommendation letters be from academic supervisors or instructors.

Students must present evidence of a satisfactory background in anthropology, which should include coursework in all four subfields of Anthropology (socio/cultural, bio/physical, archaeology, and linguistics). Deficiencies in anthropology may require remediation. Students must have two semesters of a single foreign language or equivalent, and one semester of statistics. In those instances in which the undergraduate background of the student is deficient, the department reserves the right to prescribe course work that would correct such deficiencies.

The M.A. program is designed to be completed in two full years of graduate study. Appropriate allowance will be made for parttime students.

Students who graduate with a Master of Arts degree will be able to explain the content of the four fields of Anthropology and their interrelationship in written and oral formats; they will have an experience in original research; and, they will develop skills which foster professionalism in their chosen fields.

Doctoral Program

The Anthropology Ph.D. program has the following learning outcomes:

1. students will have professional and specialized training so they can move into careers in academic or non-academic tracks,

2. students will have a dissertation research experience that results in professional publication(s), thereby contributing to the expansion of knowledge, and

3. students will have practical experience that will promote their movement into professional careers in a reasonable amount of time.

Deadline for application is December 1 for the following fall. *See graduate admission requirements.*

Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should identify whom they would like as their faculty adviser and describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

Students with a master's degree may apply directly to the Ph.D. program.

Students with a bachelor's degree may apply to the Ph.D. program. If admitted, students are expected to complete the master's degree requirements following the Plan A or Plan B option before formal admission to the Ph.D. program. At the thesis defense or hearing for the Plan B paper, the student will receive a no pass, pass-terminate at the master's degree, or a pass-admit to the Ph.D. program.

Students admitted to the department's M.A. program are not guaranteed admission to the Ph.D. program.

For admission to the Ph.D. program with the Bachelor's degree, students must have course work in the four subfields of anthropology, two semesters of a single foreign language, and statistical competency at either the B.A. or M.A. level. If these are not satisfied, the student's faculty adviser in coordination with the student's graduate committee assigns remedial work as appropriate.

Students who graduate with a Ph.D. in Anthropology will have specialized and professional training so they can move into academic or non-academic tracks; they will have a dissertation experience that results in professional publications; and they will have professional experiences that facilitate their move into careers in a reasonable amount of time.

Program Specific Graduate Assistantships

Doctoral students generally receive two years of assistantships. First semester, first year M.A. students are generally not awarded assistantships; however, the department occasionally does make exceptions. M.A. students are eligible to apply for assistantships beginning in the second semester.

Assistantships are awarded through a departmental application process. An application form, cover letter, and resume are required. Information and deadlines may be obtained in the department office.

Failure to complete steps in the M.A. program by established deadline (e.g., advisor selection, proposal presentation, etc.) means the student is not eligible for an assistantship. Failure of the Ph.D. preliminary exam means the student is not eligible for an assistantship.

Program Specific Degree Requirements

Master's Program Plan A (thesis)

See university minimum requirements.

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of ANTH 5010, 20th Century Anthropological Theory; ANTH 5015, Archaeological Theory and Method; ANTH 5020, Biological Anthropology; and ANTH 5030, Linguistic Anthropology.

First semester (fall): Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (spring): Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Third semester (fall): Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (spring): Thesis is completed and is approved by thesis committee.

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Plan B (non-thesis)

See university minimum requirements.

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Doctoral Program

See university minimum requirements.

After completion of an M.A. program in anthropology.

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee. If not completed prior to admission, two semesters of a single foreign language must be completed.

Two additional courses in their first or second year: ANTH 5880, Professionalism in Anthropology and the two-semester sequence of ANTH 5890, Teaching Anthropology (3 hours total).

Teaching experience, including standalone courses, after completion of the first semester of Teaching and Learning (ANTH 5890), as well as teaching assistance to UW faculty members.

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Committee meeting and successful completion of a dissertation proposal.

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

Department of Visual Arts

110 Visual Arts Building, (307) 766-3269
Web site: https://www.uwyo.edu/art/
Department Head: Doug Russell

Professors:

ASHLEY HOPE CARLISLE, B.F.A. University of Southern Mississippi 1997; M.F.A. University of Georgia 2002; Professor of Art 2019, 2003.

RICKI KLAGES, B.F.A. University of Arizona 1984; M.A. University of New Mexico 1991; M.F.A. 1993; Professor of Art 2012, 1996.

DOUG RUSSELL, B.F.A. Columbia College 1990; M.A. University of Iowa 1995; M.F.A. 1996; Professor of Art 2019, 2005.

RACHEL SAILOR, B.A. Oregon State University 1992; M.A. University of Oregon 1994; Ph.D. University of Iowa 2007; Professor of Art 2023, 2011.

SHELBY SHADWELL, B.F.A. Washington University in St. Louis 2003; M.F.A. Southern Illinois University 2007; Professor of Art 2024, 2010.

Associate Professors:

PETER FINE, B.A. California State University, Chico 1993; M.F.A. University of Arizona 2004; Associate Professor of Art 2017, 2013.

BRANDON GELLIS, B.A. University of California at Santa Cruz 2002; M.F.A. University of Denver 2015; Associate Professor of Art 2021, 2015.

Assistant Professors:

KAIT ARNDT, B.F.A. Utah State University 2010, M.F.A. University of Missouri 2016, Assistant Professor of Art 2023.

XUHAO (HOWE) YANG, B.F.A. Guangzhou Academy of Fine Arts, Guangzhou, Guangdong China 2001; M.F.A. University of North Texas 2013; Ph.D. University of Arizona, 2024; Assistant Professor of Art 2024.

Senior Academic Professional Research Scientist:

DAVID L. JONES Jr., B.F.A. University of Georgia 2000; M.F.A. University of Tennessee 2004.

Assistant Academic Professional Lecturer:

TRACEY ECKERSLEY, B.A., Wilfrid Laurier University; M.A., McMaster University; M.M.St., University of Toronto; Ph.D., University of Louisville, 2016.

SAMARA JOHNSON, B.F.A. Sonoma State University 2013; M.F.A. University of Colorado-Boulder 2020

Senior Academic Professional Lecturer:

BAILEY RUSSEL, B.A. Princeton University 2001; M.A. New York University 2004.

Professors Emeriti:

Deaderick, Edwards, Evans, Flach, Forrest, Reif, Russin (Distinguished Professor of Art), Schaefer, Haydon, Hardy, Ritchie

Visual Arts

The Department of Visual Arts supports the creative, aesthetic and cultural development of students within the university community and serves the cultural and educational needs of the state. The department is dedicated to preparing its graduates to assume leadership positions in their professional lives while maintaining an inner commitment to the aesthetic standards of their chosen discipline. The department encompasses four major areas: Studio Art, Visual Communication Design, Art History, and Art Education.

The program fosters a unique combination of innovation, tradition, aestheticism and practicality, by providing a professional visual arts education built on a strong University Studies Program (USP) foundation.

Department Policy

A class within the Department of Visual Arts may require additional meeting times, so that students may fully participate in the Visiting Artist Program and the UWAM lecture series.

As a matter of policy, the Department of Visual Arts reserves the right to retain any works created by students it deems worthy for the purposes of exhibition until the end of the academic year.

The Department of Visual Arts studios are the primary instructional classrooms. As a matter of policy, access to the studios and use of the equipment is reserved for students who are formally registered for scheduled courses and are following a prescribed curriculum.

Scholarships

The department has several scholarships for qualified students at all stages in the program. See the Department of Visual Arts website for a full list of scholarships.

Academic and Career Advisement

Faculty advisers work closely with department students to guide and direct their progress through their declared degree program and course of study. Through the Visiting Artist and Scholar Program, the UW Art Museum and internship placements, the department provides numerous opportunities and role models for a professional life in the visual arts. Through consultation and discussion with faculty advisers, art students consider their interests and abilities in relation to the many and varied careers in the arts and art related fields. Many graduates go directly into industry, on to pursue graduate studies or take the next step in their career plan. On a competitive basis upon graduation, majors may participate in the Post Undergraduate Assistantship Program where they may prepare a portfolio for graduate school and/or gain additional experience in the studio and the classroom setting.

Undergraduate Majors

The University of Wyoming Department of Visual Arts offers five degrees:

- Bachelor of Arts in Art History
- Bachelor of Arts in Studio Art
- Bachelor of Arts in Art Education
- Bachelor of Fine Arts in Studio Art
- Bachelor of Fine Arts in Visual Communication Design

Transfer Residency

A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in all five of the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000- and above).

BA in Studio Art and BA in Art Education Majors - General Requirements

ART 1005, 1110, 1120 and 1130 are considered an important preparation and prerequisite for drawing, painting, printmaking, ceramics, sculpture and visual communication design courses and are required freshman courses for the majors. Studio Art and Art Education Majors must complete the Foundation Core Hours before electing upper division courses in any studio area. ART 2010, 2020, and 2305 are required sophomore courses.

Once sophomore BA in Art Studio and BA in Art Education majors complete course prerequisites, they select a minimum of four courses from the studio core hours. Most of the university and college requirements should be completed as early as possible before the senior year. The department will enforce published prerequisites for courses.

BA in Studio Art and BA in Art Education majors must submit a portfolio for evaluation in ART 2000: Portfolio Review before proceeding to intermediate and advanced studio and design classes (3000 and 4000 level) beyond the required Studio Core. Any student whose portfolio is assessed as deficient must address the deficiencies by retaking and passing Portfolio Review before receiving permission to advance in the major. Students who intend to apply into the BFA in Studio Art or the BFA in Visual Communication Design must first declare a BA in Studio Art and successfully pass ART 2000: Portfolio Review.

Please note: Any BA in Studio Art and BA in Art Education student who does not pass ART 2000: Portfolio Review on their first attempt may decide to re-take the class. However, failure to pass the review twice will render the student ineligible to progress in the Department as a BA in Studio Art, BFA in Studio Art , BA in Art Education, or

BFA in Visual Communication Design major, although minors in the department and the BA in Art History remain open - as do all other majors and minors on campus. Any student who has failed to pass Portfolio Review twice may petition to take the review for a third time based on extenuating circumstances outside of their control. Students may only petition once and the decision on that petition is final. ART 2000: Portfolio Review will is offered in each fall, spring, and summer semesters.

Undergraduate Minors

Minors are offered in the following areas:

- Art History
- Ceramics
- Digital Media
- Drawing
- Metalsmithing
- Museum Studies
- Painting
- Photography
- Printmaking
- Sculpture

Further information may be found on the department's website.

Please note: B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design and B.A. in Art Education degree students cannot have a minor in a specific studio discipline. B.A. in Art History students may have a minor in studio disciplines, and B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design, and B.A. in Art Education degree students may have a minor in Art History and/or Museum Studies.

Department of Communication and Journalism

223 Ross Hall, (307) 766-3122
FAX: (307) 766-5293
Web site: www.uwyo.edu/COJO
Department Chair: Cindy Price Schultz

Professor:

CHIA FANG (SANDY) HSU, B.A. Chinese Culture University 1995; M.A. Washington State University 1997; Ph.D. Washington State University 2002; Associate Professor of Communication and Journalism 2009, 2003.

Associate Professors:

LI LI, B.A. Hebei Normal University 2001; M.A. China University of Mining and Technology 2004; M.A. Ohio University 2009; Ph.D. 2012; Associate Professor of Communication and Journalism 2019, 2012.

CINDY J. PRICE SCHULTZ, B.A. University of Sioux Falls 1989; M.S. South Dakota State University 1992; Ph.D. Southern Illinois University 2000; Associate Professor of Communication and Journalism 2005, 1999.

Assistant Professor:

SHANE EPPING, B.A. University of Chicago; M.A. Washington University, St. Louis; M.A. University of Missouri; Ph.D., University of Missouri.

HYE SOO NAH, B.A. Hankuk University, 2008; M.A., University of Missouri, 2011; Ph.D., University of Illinois, 2023.

Senior Lecturers:

BEAU BINGHAM, B.S. Idaho State University 2000; M.A. New Mexico State University 2002; Senior Lecturer of Communication and Journalism 2007, 2003.

JUSTIN STEWART, B.A. University of Wyoming 2003; M.A. 2005; Senior Lecturer of Communication and Journalism 2017, 2005.

Assistant Lecturers:

MATTHEW LIU, B.A. University of Mary Washington 2009; M.A. Wake Forest University 2014; Assistant Lecturer of Communication and Journalism 2019.

MITZI STEWART, B.A. University of Wyoming 2007; M.A. 2015; Assistant Lecturer of Communication and Journalism 2019.

Emeriti:

Michael R. Brown, B. Wayne Callaway, William C. Donaghy, John W. Ravage, Kenneth L. Smith

The Department of Communication and Journalism provides a broad range of professional and research courses, offering a sound interdisciplinary academic program for students who plan careers in communication or media. Courses are comprised of writing, speaking and analyzing messages; forms of interpersonal communication; media effects and audiences' interpretations of media messages and images. Degrees are granted in communication and journalism with academic specialties in each of the degree areas. Students are given academic preparation in communication skills (media writing and public speaking), coupled with opportunities for professional experience in their majors. The department also offers minors in public relations, communication, journalism, and marketing communication.

Facilities and Research Activities

The department encourages majors to work actively in professional opportunities. The department offers unique experience for students with the student newspaper, *The Branding Iron*.

Oral Communication Center, Ross Hall 442. A resource for the entire university community. The lab is open for anyone required to present material orally. Lab instructors offer assistance at any stage in the process-from topic selection, purpose statements and gathering materials-to organizing, outlining and rehearsal. They can help alleviate speech anxiety that may prevent or inhibit some individuals from achieving their overall academic or career goals. Clients can have their presentations recorded for critical input and evaluation as well as for portfolio or interview applications.

Debate. The department conducts a nationally recognized program of Cross Examination Debate Association (CEDA) and has a College Public Forum team. Teams and individuals representing the university attend national intercollegiate tournaments each year. Participation in the forensics program is open to all University of Wyoming students on a credit (COJO 2099) or non-credit basis.

Laboratories. The department has computer laboratories that support the professional, academic and research programs. These include a computer lab and digital production equipment.

Research. The department encourages undergraduate and graduate research. Faculty and students participate in research projects in social, cultural and political aspects related to media, interpersonal and organizational processes.

Internships. Journalism majors are required to complete internships in their field. Communication majors are encouraged to complete internships in their field. In addition to working with the *Branding Iron*, students can complete internships with newspapers; advertising and public relations agencies; non-profit organizations; businesses, professional and university sports organizations; governmental agencies; and many others. *Note*: a maximum of 6 hours in COJO 3480 and COJO 4990 count as fulfillment of the requirements for a major. Up to 12 hours will count toward graduation as upper-division hours.

Student Organizations

Professional Organizations. The department has a chapter of Lambda Pi Eta, communication honorary.

Student Activity. Within the department, student representatives participate on faculty committees where they assist in forming policies of the department.

The Branding Iron. The daily campus newspaper is independently managed by students at UW. It provides professional experiences for reporting, editorial, photojournalism, publication design and advertising.

The Owen Wister Review. The literary and arts magazine is independently managed and produced by university students, it features poetry, short stories, essays, photography and artwork.

Frontiers Magazine. The magazine is independently managed by UW students. Containing general interest content, the publication offers students opportunities to improve their professional skills in feature writing, in-depth reporting, photography, layout, design, advertising and marketing. Like the *Branding Iron* and *Owen Wister Review*, *Frontiers* is published under the auspices of UW Student Publications.

Scholarships and Awards

The department has several scholarships available to qualified students. Most are managed by Student Financial Aid.

Undergraduate Programs

The department offers courses leading to baccalaureate degrees in communication and journalism, as well as being an instrumental part of the Agricultural Communications degree. If a student wishes to double major in any of these degrees, only six credits will double count for each major.

Students majoring in the department must earn a grade of C or better in departmental required courses. Students may not take a course for S/U credit to satisfy requirements of the major.

Minors

The department offers minors in communication, journalism, marketing communication, and public relations. All minors must have a 2.00 minimum in minor classes. If a student is a communication, journalism or Agricultural Communications major, only six credits can double count for the major and the minor.

Graduate Study

The Department of Communication and Journalism offers graduate work leading to the master of arts degree in communication (either thesis or non-thesis) with emphasis on human communication or media communication.

The program offers coursework and study in rhetorical, critical/cultural, and social scientific perspectives and methodologies. The program is designed to be flexible such that students can examine questions that relate to their specific interests in human communication and/or mediated communication. Areas of interest include but are not limited to 1) communication processes in media (e.g., journalism, social media, advertising, public relations) about various issues such as politics, race and ethnicity, science, health, law and ethics, and international relations; 2) communication processes in human relationships (e.g., in interpersonal, small group, and organizational settings) about various issues such as culture, diversity, education, technology, science, and politics; and 3) communication as an agent of stability and change in diverse social systems.

Program Specific Admission Requirements

A cumulative minimum grade point average of 3.000 (A=4.000) on previous coursework is required for full admission.

The GRE is not required for admission to the graduate program. However, anyone who wants to be considered for a graduate assistantship in the department must take the GRE.

For international graduate students, the minimum acceptable TOEFL score is 540 (76 iBT). The minimum acceptable IELTS score is 6.5. International students must also provide proof of financial support (see UW Admissions for more details).

All graduate student applications, both domestic and international, must provide a writing sample of their work, whether that is a research paper, media publication, or another example of scholarly work. Please contact the director of graduate studies with any questions about the writing sample.

Department of Criminal Justice and Sociology

Contact Information

208 Arts and Sciences Building,
(307) 766-2988
Criminal Justice website: www.uwyo.edu/cj **Sociology website:** www.uwyo.edu/Sociology
Department Head: Eric Wodahl

Mission Statement

The Department of Criminal Justice & Sociology is committed to providing its students with a comprehensive liberal arts education and advancing research of value to Wyoming and our respective fields. We strive to provide a high-quality education to students that will inspire them to become critical thinkers, effective communicators, and lifelong consumers of knowledge. Students will be exposed to diverse perspectives, research, and learning opportunities to prepare them for a variety of professions in the public, private, non-profit, research, service, and academic settings.

Faculty

Professors:

ADRIENNE FRENG, B.A. Black Hills State University 1995; M.A. University of Nebraska 1997; Ph.D. 2001; Professor of Criminal Justice 2007, 2001.

ERIC J. WODAHL, A.A. Eastern Wyoming College 1992; B.A. Chadron State College 1994; M.P.A. University of Wyoming 2003; Ph.D. University of Nebraska at Omaha 2007; Professor of Criminal Justice 2021, 2007.

Associate Professors:

JAMIE A. SNYDER, B.S. Northern Kentucky University 2005; M.S. University of Cincinnati 2007; Ph.D. 2011; Associate Professor of Criminal Justice 2021, 2018.

JENNIFER TABLER, B.A. University of California Los Angeles 2010; M.S. University of Utah 2013; Ph.D. 2016; Associate Professor of Sociology 2022, 2018.

CLAIR UDING, B.A. Colorado State University 2009; Ph.D. Arizona State University 2015; Associate Professor of Criminal Justice 2023, 2018.

Assistant Professors:

DANIEL AUERBACH, B.S. St. Lawrence University 2008; M.S. North Carolina State University 2012; Ph.D. University of Utah 2020; Assistant Professor of Sociology 2020.

KYLE BARES, B.A. University of Wyoming 2016; M.A. Bowling Green State University 2018; Ph.D. Bowling Green State University 2021; Assistant Professor of Criminal Justice 2022.

KATELYN GOLLADAY, B.B.A. Pacific Lutheran University 2012; M.S. Arizona State University 2014; Ph.D. 2018; Assistant Professor of Criminal Justice 2018.

KENNETH R HANSON, B.A. Seattle University 2015; M.A. Kent State University 2017; Ph.D. University of Oregon 2022; Assistant Professor of Sociology 2022.

JULIE KUPER, B.S. Florida State University; M.S. Florida State University; Ph.D. Florida State University, 2024; Assistant Professor 2024.

Lecturers:

DANIEL FETSCO, B.A. University of Wyoming 1995; J.D. University of Denver 1998; M.A. Arizona State University 2013; Associate Lecturer of Criminal Justice 2023, 2017.

PAUL GREGORY, B.S. Lamar University 1992; M.A. University of Houston; Ph.D. Western Michigan University; Assistant Lecturer 2024.

AMANDA SIKIRICA, B.A. College of William and Mary; M.S. University of Oregon; Ph.D. University of Oregon; Assistant Lecturer 2023.

Adjunct Professor:

(See Catalog section following name for academic credentials.)

MARTHA MCCAUGHEY, Ph.D., Visiting Adjunct Professor

Professors Emeriti:

David Ashley, Audie Blevins, Gary Hampe, Malcolm Holmes, Quee-Young Kim, Richard Machalek

Degree Programs

Criminal Justice Program

Criminal Justice is a social science that major examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services. The Criminal Justice Program offers both undergraduate and graduate degrees, concentrations, and minors (see below for details). Criminal Justice students will be involved in a critical examination of the sources of criminal behavior and the social and political institutions and processes designed to control criminal behavior. We expect that our graduating students will have achieved the following learning outcomes:

1. Students will identify and describe major types of crime, the extent of crime, and its distribution in society.
2. Students will describe the broad historical and contemporary understanding of criminal justice systems, the interconnectedness of policing, courts, and corrections.
3. Students will recognize and apply major legal principles that serve as the foundation for civil and criminal law in the justice system.
4. Students will describe basic concepts and evaluate theoretical perspectives in criminology and criminal justice.
5. Students will demonstrate the ability to comprehend and critically assess research and policy relevant to the field of criminal justice and criminology.
6. Students will critically examine major ethical dilemmas facing the criminal justice field and the related issues of diversity and discrimination.

Sociology Program

Sociology is the scientific study of group life and the investigation of the social causes and consequences of human behavior. This discipline occupies a central position in the social sciences and covers the full scope of social behaviors, from interactions between individuals to relationships among entire societies. Most importantly, sociology invites students to analyze those features of social existence that we are most likely to take for granted. As such, sociological training imparts critical and analytical skills of great value in virtually all aspects of modern life.

Much of the applied knowledge employed in diverse fields such as communications, social work, business management, family life, health care, urban planning, government, education, religion and the administration of justice derives from basic sociological research. Consequently, sociological training provides an excellent background for occupations connected with these fields. In addition, an undergraduate degree in sociology prepares many students for advanced study in law, education, business, public administration, social work, pastoral work, health care and other professions.

We expect that our graduating students will have achieved the following learning outcomes:

1. Demonstrate an understanding of basic concepts and theoretical perspectives in sociology
2. Apply the scientific method to sociological research
3. Develop proficiency in the critical consumption of academic and non-academic sources

4. Express sociological ideas in core substantive areas, such as inequality, race/ethnicity, environment, deviance, gender, family, and education, clearly and coherently through written and oral communication
5. Apply a sociological framework to social problems occurring locally, nationally, and globally

Department of English

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/english
Department Chair: Kelly Kinney

Professors:

SUSAN ARONSTEIN, B.A. Seattle Pacific University 1980; M.Sc. Edinburgh University 1984; Ph.D. Stanford University 1987; Professor of English 2006, 1987.

KENT G. DRUMMOND, B.A. Stanford University 1980; M.B.A. Northwestern University 1982; Ph.D. University of Texas, Austin 1990; Professor of English 2019, 1990.

CAROLINE McCRACKEN-FLESHER, M.A. University of Edinburgh 1980; M.A. Brown University 1986; Ph.D. 1989; Professor of English 2004, 1989.

TRACEY OWENS PATTON, M.A. Colorado State University 1996; Ph.D. University of Utah 2000; Professor of English 2022.

Associate Professors:

CAROLYN ANDERSON, B.A. Auckland University 1981; M.A. 1984; Ph.D. Stanford University 1992; Associate Professor of English 2001, 1993.

MICHAEL EDSON, B.A. Virginia Tech University 2003; M.A. University of Delaware 2005; Ph.D. 2011; Associate Professor of English 2020, 2014.

SCOTT HENKEL, B.A. Western Michigan University 1997; M.A. Ohio University 2000; Ph.D. Michigan State University 2007; Associate Professor of English 2018, 2015.

KELLY KINNEY, B.A. Purdue University 1992; M.A. University of Nebraska-Omaha 1996; Ph.D. Ohio University 2005; Associate Professor of English 2015.

MICHAEL KNIEVEL, B.A. Creighton University 1995; M.A. 1997; Ph.D. Texas Tech University 2002; Associate Professor of English and Co-Director of Writing Program 2022, 2009, 2002.

CLIFFORD J. MARKS, A.B. University of Michigan 1983; M.A. State University of New York, Buffalo 1988; Ph.D. 1992; Associate Professor of English 2000, 1993.

JULIA OBERT, B.A. University of Western Ontario 2004; M.A. University of British Columbia 2006; Ph.D. University of California, Irvine 2011; Associate Professor of English 2016, 2011.

PETER PAROLIN, B.A. University of British Columbia 1988; M.A. University of Pennsylvania 1991; Ph.D. 1997; Associate Professor of English 2003, 1997.

JASON THOMPSON, B.A. Pacific Lutheran University 1996; MFA University of Arizona 2000; Ph.D. 2008; Associate Professor of English 2015, 2008.

ARIELLE ZIBRAK, B.A. University of Rochester 2003; M.A. Boston University 2007; Ph.D. 2013; Assistant Professor of English 2020, 2014.

NANCY SMALL, B.A. Texas A&M University 1992; M.A. 1994; Ph.D. Texas Tech University 2014; Associate Professor of English 2022, 2017.

Senior Lecturers:

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

RICK FISHER, B.A. University of Wyoming 2002; M.A. 2006; Ph.D. 2018; Senior Lecturer in English 2020, 2015, 2011.

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

JOYCE STEWART, B.A. Felician College 1994; M.A. Creighton University 1998; Senior Lecturer in English 2018, 2008.

Assistant Lecturers:

ASHLEY M. BURCHETT, B.A. The College at Southeastern 2016; M.A. North Carolina State University 2018; Assistant Lecturer in English and Co-Director of Writing Program 2022, 2019.

ALLISON GERNANT, B.A. Grinnell College 1996; M.A. University of Wyoming 2005; Assistant Lecturer in English & LeaRN 2015.

Study in the English department today emphasizes composition, literature, and rhetoric, creative and expository writing, and the nature and workings of language. Students in the department's programs can learn to read with pleasure and understanding, to write with grace, clarity and force, and to think with greater depth and breadth. With these accomplishments, students are prepared for lives and work in which their power to understand, read, write and communicate will serve themselves and others, some specifically in careers in writing or teaching, some in professions of law, medicine, administration or almost any other field.

Composition, Literature, and Rhetoric are traditions that reach back through the centuries, but these intellectual traditions are continually growing and changing. New theories of language help us reshape understandings of ancient traditions and enhance our lives as critical readers and writers and creative human beings.

Assessment of English Undergraduate Learning

Through an active and ongoing assessment of our program, we have identified the following outcomes that are expected of each student graduating with a Bachelor of Arts in English. We will continue to assess our curriculum to ensure these outcomes are being met:

UW students graduating with a Bachelor of Arts in English will have demonstrated an ability to:

1. Read, interpret, and write about a diverse range of texts in English, for example literature, film, digital media, and popular culture;
2. Understand those texts analytically and critically;
3. Understand those texts on the basis of careful close reading;
4. Understand those texts through past and current literary and rhetorical theory;
5. Understand that those texts are culturally constructed in time, place, and tradition;
6. Understand how those texts inform culture;
7. Participate in the critical and cultural discourses of English;
8. Participate clearly and appropriately through multiple spoken and written forms.

English Honors Program

Requires a 3.500 GPA and a senior honors paper and defense. See the English department web site for information.

Teacher Certification

Students seeking the B.A. in English may also be certified for public school teaching by completing additional requirements set forth by the College of Education, via a concurrent major in English and English Education.

Graduate Study

The M.A. graduate program in English offers three concentrations leading to the master of arts degree: Literary Studies, Composition and Rhetoric, and Public Humanities.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of English requires that students demonstrate by means of an official transcript that they have a solid undergraduate record with course work in English. That said, the department welcomes degrees in English or other disciplines from four-year colleges or universities.

Depending on their undergraduate preparation, some successful applicants may be required to take additional or specific courses toward the English master's degree.

Candidates must submit GRE general test scores, a writing sample, a 500-word statement of purpose, a CV/resume, and three letters of recommendation.

English offers both a campus-based M.A. degree and a low-residency/online M.A. degree. Students should consult the M.A. web site or contact the department for specific admission information and deadlines for both M.A. programs.

Program Specific Graduate Assistantships

Teaching assistantships are available to qualified applicants in the campus-based M.A. degree. Full assistantships carry an annual stipend and a remission of full-time tuition and fees, and require the teaching of one course per term.

Each fall the department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia for all graduate assistants. Each assistant is assigned an experienced teacher in the department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Creative Writing Program

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/creativewriting/
Program Director: Val Pexton

Professors:

ALYSON HAGY, B.A. Williams College 1982; M.F.A. University of Michigan 1985; Professor of Creative Writing 2008, 1996.

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2015.

FRIEDA E. KNOBLOCH, B.A. Cornell University 1985; Ph.D. University of Minnesota 1994; Professor of American Studies and Creative Writing 2014, 1997.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

KATE NORTHROP, B.A. University of Pennsylvania 1991; M.F.A. University of Iowa 1995; Associate Professor of Creative Writing 2008.

Senior Lecturers:

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

Creative Writing

We are writers. Our principles follow from what claims us as writers as we guide our students in the creation of their own work. We offer a commitment to art and to the development of community through art. We offer an immersion in making, a chance to discover, to create serious work without pretense, to collaborate, to shake off assumptions and anxieties.

To be first and foremost concerned with making does not mean we take refuge from the world. It means we begin by supporting the deepest, most intelligent engagement with what matters to us as writers. A critical distance from the literary and academic marketplaces allows us to engage with them in a more thoughtful manner once we have found our authentic calling-that which we are truly compelled to explore. Our values will never map perfectly onto the concerns of institutions, and that is good. We strive to create the finest conditions for the making of art when we remain

in an eccentric orbit of our own, one that overlaps with the other orbits, yet remains, as much as possible, guided by our own principles which include:

Making: we require the serious, committed, ongoing process of writing and revision.

Range: we cultivate a diversity of taste, form, genre, experience, and background, as well as an open understanding of what might constitute professional accomplishment.

Flexibility: we invite our writers to pursue their own creative and intellectual goals, to tailor the program in individual ways.

Curiosity: we urge creative and intellectual roaming: cross-genre work, interdisciplinary study, the movement across what are usually understood as boundaries; we encourage students to imagine possibilities beyond what is already imagined for them by the program and the university.

Community: we foster an environment that sustains listening, investment in the work of others, collaboration, rigorous expectation, generosity and, at the same time, respect for solitude.

Integrity: we challenge students to engage in deep investigation, to find their intent as a writer and to commit to it fully.

Graduate Study

The Creative Writing Master of Fine Arts offers two areas of concentration: fiction and creative non-fiction.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this Catalog, the Creative Writing M.F.A. Program requires that students demonstrate by means of an official transcript that they have a solid undergraduate record. The M.F.A. program welcomes degrees in any discipline from four-year colleges or universities. Candidates submit three letters of recommendation, a writing sample consisting of no more than 25 pages of prose, a 500-word statement of purpose and a vita. Students should consult the M.F.A. web site or contact the department for specific admission information and deadlines.

Program Specific Graduate Assistantships

We are a fully-funded program, meaning that we accept only as many students as we can support with graduate assistantships. Full assistantships carry an annual stipend and tuition waiver, and require the teaching of one section per semester, or equivalent work assignment. M.F.A. students are expected to teach freshman English.

Each fall, the English department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia. Each graduate assistant is assigned to an experienced teacher in the English department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Department of History

History

History Building

(307) 766-5101

Website: www.uwyo.edu/history

E-mail: uwhistory@uwyo.edu

Department Chair: Jeffrey Means

Professor:

RENEE LAEGREID, B.A. Washington State University 1982; M.A.L.S. Wesleyan University 1994; Ph.D. University of Nebraska 2002; Professor of History 2015, 2012.

Associate Professor:

ISADORA A. HELFGOTT, B.A. Swarthmore College 1994; A.M. Harvard University 1997; Ph.D. 2006; Associate Professor of History 2015, 2009.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Assistant Professor of History and Anthropology 2014.

JEFFREY D. MEANS, B.A. Grand Canyon University 1995; M.A. University of Montana 2001; Ph.D. University of Oklahoma 2007; Associate Professor of History 2013, 2007.

Assistant Professor:

ADAM BLACKLER, B.A. Carroll College 2006; M.A. University of Wyoming 2009; Ph.D. University of Minnesota - Twin Cities 2017; Assistant Professor of History 2018.

BARBARA E. LOGAN, B.A. Queens College, CUNY 1986; Ph.D. University of California-Santa Cruz 2002; Assistant Professor of History 2018, 2011.

MELISSA MORRIS, B.A. Miami University 2004; M.A. Miami University 2010; Ph.D. Columbia University 2017; Assistant Professor of History 2018.

PETER WALKER, B. A. University of Oxford 2008; M. Phil. University of Oxford 2010; Ph. D. Columbia University 2016; Visiting Assistant Professor of History 2019.

Adjunct Faculty:

MICHAEL J. DEVINE, B.A. Loras College 1967; M.A. Ohio State University 1968; Ph.D. 1974; Adjunct Professor of History, 2014, 1991.

Professors Emeriti:

Eric D. Kohler, William H. Moore, Phil Roberts

History Program

History is a foundational discipline that blends the methodologies and perspective of the humanities and social sciences in order to engage with the history of human culture on a global scale. UW's History degree program emphasizes interdisciplinary teaching and research and provides course work, research experiences, and internships on both American and international topics. The History program offers a Bachelor of Arts degree major, minor, Public History Concentration, and a Master of Arts degree.

The study of History at the University of Wyoming provides students with the tools to comprehend the present in order to prepare for the future. Challenging courses are designed to facilitate critical thinking and the development of analytical skills. Each of our courses features the discussion of complex issues, the development of writing and reading skills, and is generally oriented toward promoting individual enrichment. The professional skills that the History program instills transcend our field and allow students to work toward a variety of career choices such as business, law, government service, public history, archives and museum work, education, management, writing, and graduate studies. The ability to develop perspective, render informed judgments, and function as productive citizens of the global community stand as hallmarks of our program.

Learning Outcomes

It is the goal of the History department that our graduates have the following skills and knowledge:

- Students shall be able to demonstrate thinking skills by analyzing, synthesizing, and evaluating historical information from multiple sources.
- Students will develop the ability to distinguish between fact and fiction while understanding that there is no one historical truth.
- Students will produce well-researched written work that engages with both primary sources and the secondary literature.
- Students will develop an informed familiarity with multiple cultures.
- Students will employ a full range of techniques and methods used to gain historical knowledge.
- Students will develop an ability to convey verbally their historical knowledge.
- Students will demonstrate their understanding of cause and effect along with their knowledge of the general chronology of human experience.

Department of Languages - Modern and Classical

116 Hoyt Hall, (307) 766-4177
FAX: (307) 766-2727
Website: www.uwyo.edu/modlang
Department Chair: Joy Landeira

Professor:

CONXITA DOMÈNECH, B.A. Universitat Autònoma de Barcelona 1990; Licenciatura 1992; M.A. University of Colorado Boulder 2006; Ph.D. 2010; Professor of Spanish 2020.

JOY LANDEIRA, B.A. University of Wyoming 1973; M.A. 1975; Ph.D University of Colorado, Boulder 1981. Professor of Spanish 2015. Department Chair.

Associate Professors:

EKATERINA ALEXANDROVA, B.A. Saint Joseph's University 2003; M.A. Dartmouth College 2004; Ph.D. University of Pennsylvania 2012; Associate Professor of French 2018, 2012.

IRENE CHECA-GARCÍA, B.A. University of Granada 1997; M.A. Linguistics University of Granada 2000; Ph.D. Universidad de Alemería 2004; Associate Professor of Spanish 2018, 2012.

REBECCA E. STEELE, B.A. LeibnitzAcademie 2001; M.A. Rutgers, The State University of New Jersey 2008; Ph.D. 2009; Associate Professor of German 2015, 2009.

KHAMA-BASSILI TOLO, G3: Gradué en Pédagogie Appliquée, Option: FrancaisLinguistique Africaine, Université Nationale du Zaire 1976; L2: Licencié en Pédagogie Appliquée, Option: Francais, 1978; M.A. Vanderbilt University 1986; Ph.D. 1989; Associate Professor of French 1996, 1990.

Assistant Professors:

CHELSEA ESCALANTE, B.A. Stanford University 2005; M.A. University of Arizona 2009; Ph.D. University of California, Davis 2018; Assistant Professor of Spanish 2018.

SONIA RODRIGUEZ HICKS, Ph.D. University of New Mexico 2017. Assistant Professor of Spanish 2020.

Senior Academic Professional Lecturers:

LAURA DE LOZIER, B.A. Beloit College 1990; M.A. University of Wisconsin 1992; Ph.D. 2002; Senior Academic Professional Lecturer in Classics, Greek, and Latin 2014, 2003.

BÉNÉDICTE SOHIER, B.A. Stephen F. Austin State University 2006; M.A. Indiana University Bloomington 2008; Associate Academic Professional Lecturer in French 2015, 2009.

YAN ZHANG, B.A. Harbin Institute of Technology 2000; M.A. Heilongjiang Provincial Academy of Social Sciences 2002; Senior Academic Professional Lecturer in Chinese 2016, 2006.

Assistant Lecturers

NOAH MILES, B.A. University of Iowa 2005; M.A. University of Iowa 2007; Assistant Lecturer in Japanese 2022.

ADRIANA NOYA-SALGUIERO, B.A. Universidad Complutense de Madrid 1991; M.A. Universidad Complutense de Madrid 1993; M.A. University of Wyoming 2017; Assistant Lecturer in Spanish 2022.

Professors Emeriti:

M. Ian Adams, Lewis Bagby, Lowell A. Bangerter, Klaus D. Hanson, Francis S. Heck, Philip G. Holt, Joseph Krafczik, Hannelore Mundt, Jean-Louis G. Picherit, Duane Rhoades, Pavel Sigalov. Mark W. Person.

The Modern and Classical Languages department offers work leading to the B.A. degree with majors and minors in French, German, and Spanish. A minor is offered in Classical Civilizations, Chinese, Latin and Japanese. The M.A. is available in Spanish. Courses are also offered in literature, linguistics and translation.

Foreign Language Requirements

All candidates for the B.A. and B.S. degree in the College of Arts and Sciences who matriculated before Fall 2015 are required to complete the equivalent of 8 semester hours of work in a single modern or classical language. Students with prior exposure to the language may be granted college credit after taking an online examination administered by the department; students must take this examination before completing registration for a language course (for regulations governing credit by examination, refer to Credit Available to Undergraduate Students in this *Catalog*). An advanced placement, AP, examination in the language with a score of 4 or higher satisfies the language requirement in most languages, as do CLEP and IB scores (see section on Credit by Examination on the department website).

Students who have had a foreign language in high school should take the online examination to determine the course in which they should enroll and to avail themselves of the opportunity to receive credit by examination. Students who have completed their language requirement can enroll for additional language courses of their choice, something strongly advised for those who wish to reach adequate levels of proficiency in the language or wish to study abroad. Check the Catalog or website for special sections targeted for students with varied experiences in the language.

Undergraduate Major

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Students completing an undergraduate major in our department will meet the following learning goals:

1. attain proficiency in another language in all four of the basic skills (speaking, listening, reading, and writing);
2. gain understanding of other cultures; and
3. develop skills in research critical thinking, analysis, and writing on subjects appropriate to the field of study.

Students will meet the following learning outcomes to:

1. demonstrate proficiency in conversation;
2. demonstrate reading comprehension of texts written in the language;
3. produce grammatical, idiomatic compositions in the target language;
4. gain essential knowledge about the history, traditions, customs, and ways of thinking of at least one other culture;
5. demonstrate understanding of works of literature read in the original language; and
6. produce well-reasoned and clearly articulate research papers on subjects appropriate to their field.

Minor

In general, students desiring to complete a minor in a foreign language will be required to complete a program of 18 semester hours above 2030.

Teaching Certification

For those wishing to pursue teaching certification, contact the Department of Secondary Education.

Native Language Credit

Students are not allowed university credit for language courses in their native language below the 4000 level, but may receive credit for literature courses below that level.

Study Abroad

There are many opportunities for students to study abroad and students are encouraged to do so.

Graduate Study

The Department of Modern and Classical Languages offers programs leading to the master of arts degree in Spanish. Contact the department for further details or check the department website.

Program Specific Admission Requirements

Admission to the graduate program in a specific language is open to students who have completed an undergraduate major, or the equivalent, in the same subject and who meet the minimum requirements set forth in this *Catalog*.

Students entering the graduate program from other institutions may be required to make up deficiencies in areas covered by required courses in this department's undergraduate programs.

Department of Music

Music 2049 Buchanan Center for the Performing Arts, (307) 766-5242
FAX: (307) 766-5326
Web site: www.uwyo.edu/music
Department Head: Ben Markley

Professors:

THERESA L. BOGARD, B.M. University of Colorado 1983; M.M. Eastman School of Music 1985; D.M.A. University of Colorado 1990; Professor of Music 2004, 1992. Keyboard, Keyboard Area Coordinator, Piano.

JOHN FADIAL, B.M. North Carolina School of the Arts 1987; M.M. Eastman School of Music 1989; D.M.A. University of Maryland 1995; Professor of Music 2015, 2008. Violin.

MICHAEL GRIFFITH, B.M.E. Michigan State University 1973; M.M. 1975; D.M.A. University of Colorado 1994; Professor of Music 2001, 1989. Conducting, Woodwinds.

J. SCOTT TURPEN, B.M.E. Boise State University 1994; M.M. University of Georgia 1996; D.M.A. 1999; Professor of Music 2012, 2001. Saxophone.

BLAKE MCGEE, B.M. University of Minnesota 2001; M.M. 2004; D.M.A. University of Oregon 2008; Associate Professor of Music 2016, 2010. Clarinet, Musicology.

BETH VANDERBORGH, B.M. Manhattan School of Music 1988; M.M. Eastman School of Music 1990; D.M.A. University of Maryland 1995; Associate Professor of Music 2014, 2008. Cello, Graduate Coordinator.

Associate Professors:

CRYSTAL SIEGER, B.M. Ohio State University 1992; M.M. University of Arizona 1994; Ph.D. 2012; Assistant Professor of Music 2014. Music Education.

BEN MARKLEY, B.M. Fort Hays State University 2005; M.A. New York University 2007; D.M.A. University of Colorado Boulder 2010; Assistant Professor of Music 2016. Jazz Studies.

TIGER ROBISON, B.M.E. University of Hartford 2005; M.S. Central Connecticut State University 2012; Ph.D. University of Hartford 2016; Assistant Professor of Music 2017. Music Education.

Assistant Professors:

JOSEPH CARVER, B.M.E. 2007 Ohio University; M.M. 2014 Ohio University; Ph.D. 2019 The Ohio State University. Associate Director of Bands.

BRIAN MURRAY, B.M. University of North Texas 2010; MME, Florida State University 2015; DMA, University of North Texas 2020. Assistant Professor of Music 2020. Choral Music Education.

DAVID WHARTON, B.M. Oberlin Conservatory 2009, M.M. Yale School of Music 2011, D.M.A. University of Connecticut 2019. Assistant Professor of Music 2020. Trumpet.

ANDREW WHEELOCK, B.M.E. Central Michigan University 2013; M.M. University of Illinois 2015; D.M.A. 2018. Assistant Professor of Music 2018. Percussion.

Academic Professional Lecturers:

JENNIFER TURPEN, B.M.E. SUNY-Potsdam 1996; M.M. University of Georgia 2000; D.M.A. 2000; Academic Professional Lecturer, Senior 2017, 2003. Theory, Saxophone.

ERIK ERLANDSON, B.M. DePauw University 2013; M.M. Louisiana State University 2015; D.M.A. University of Colorado Boulder 2020. Academic Professional Lecturer 2019. Choral.

Lecturers:

Will Flagg, O'Neil Jones, Nicole Riner, Magdalena Wór.

Part-time Lecturers:

Courtney Bress, Ryan Fourt, Alan Harvey, Alla Latchininsky, Kaori Uno-Jack, Seth Lewis, David Mesquitic, Susan Fritts, Greg Strampe, Heath Walton, Dan Watt, Brittany Bonner

Professors Emeriti:

Katrina Zook, Robert Belser, Steve Barnhart, David Brinkman, Gordon Childs, Julia Combs, Rodney Garnett, Frederick Gersten, Brian Hanly, Larry Hensel, Edgar Lewis, Kathleen McKeage, William Stacy, Carlyle Weiss

The Department of Music offers undergraduate and graduate degree programs which combine scholarship with performance, theory with practice and the academic with the creative. It also provides an opportunity for the study and performance of music by university students who are not majors in music. By giving concerts, workshops and lectures

throughout the state of Wyoming through the Fine Arts Outreach Program, the music department serves as a musical resource for the entire state. The music department is fully accredited by the National Association of Schools of Music.

Procedures and requirements are listed in the music department *Student Handbook* which is available online at www.uwyo.edu/music/forms/index.html. The music department *Student Handbook* and the *University Catalog* are binding documents for the degree programs listed below. Students must receive a "C" or better in all courses designated MUSC to satisfy department requirements. The foreign language requirement for the Bachelor of Music in Performance Vocal Emphasis degree may be satisfied with a "C" or better in all courses. A student's transfer courses must meet all of these requirements to be accepted for credit.

An audition is required to become a Music major or minor. The 3 Steps to Becoming a Music Major are:

1. Apply for admission to the University of Wyoming (www.uwyo.edu/admissions/).
2. Audition for admittance as a Music major and for Music scholarships. Audition and scholarship information may be found at www.uwyo.edu/music. All Music majors and minors MUST audition to be admitted to the Music program.
3. Perform at an acceptable level, and you are in!

Degrees

Bachelor of Arts (with major in music): A program designed for the student who desires a broadly-based liberal arts program.

Bachelor of Music Performance: A fouryear course of study designed for students who wish to prepare for a professional career as performer and applied teacher.

Bachelor of Music Education: A fouryear course of study for the student who wishes to prepare for a career as a teacher of music in elementary or secondary schools in the instrumental, vocal, and general music fields.

Certificates

Music Entrepreneurship Certificate: The certificate provides a basic understanding of music marketing principles and practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management. A certificate may be pursued on its own or in conjunction with any university degree program. https://www.uwyo.edu/music/certificates/music_entrep_index.html

Audio Technology Certificate: The certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music workforce with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. Certificate may be pursued on its own or in conjunction with any university degree program.

Performer's (post-baccalaureate) Certificate

A non-degree course of study for the student seeking to improve professional performance skills. The program consists of a total of 30 credit hours from applied lessons, ensembles and electives to be selected in consultation with the major adviser. Prerequisites are demonstrated evidence of advanced performance proficiency through a live or recorded audition, undergraduate degree in music, and admission to the university.

Music for Other Students

Music as an elective subject. Students from other departments of the university may, with consent of their adviser and applied instructor, elect private or class lessons in applied music (with or without previous training) and may enroll in any theory, music literature or activity course for which they are qualified. See the music department Student Handbook for requirements for a minor in music.

Organizations. Performance organizations include the Happy Jacks, Marching Band, Symphonic Band, Wind Ensemble, Collegiate Chorale, Symphony Orchestra, Chamber Orchestra, Singing Statesmen, Bel Canto, Women's Choir, and Opera Theatre. Other groups are brass, woodwind, string, percussion and piano ensembles, Vocal Jazz, Civic Chorus and Jazz Ensemble. Membership is open to qualified students in all colleges and departments of the university. Each year, in addition to frequent appearances on the campus, several of these organizations and groups tour the region.

Music Fees

For Individual Instruction:

One 1/2-hour lesson weekly, per semester	$150.00
One 1-hour lesson weekly, per semester	$300.00

For Music 4510, 4520, 4530, 4540, 4550 and 4560 (courses taken in the form of private lessons) a fee of $85.00 is assessed each semester.

Practice Rooms:

per semester	$35.00
Music instrumental fee, per semester	$25.00
Music locker fee, per student per semester	$15.00
Public School Methods fee, per class	$5.00

Undergraduate Study

Learning Outcomes

Bachelor of Arts in Music

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Arts degree in Music, students will be able to: (1) demonstrate a level of competence as solo and ensemble performers appropriate for a musician educated in the liberal arts, (2) demonstrate specific knowledge in music theory, music history, and general studies appropriate for their professional goals, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

USP PN Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

Elective 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

Upper division MUSC electives.....6

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Diversity in the U.S. Course 3

Elective 3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Global Awareness Course 3

Upper division MUSC elective*.....3

Electives 6

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

USP COM3 Course.....3

Upper division MUSC elective.....3

Electives 6

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

Upper division MUSC electives*.....6

Electives 6

Degree Total 120

*Upper Division MUSC Electives: See complete list in Undergraduate Music Handbook.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this *Catalog*. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music in Performance

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirements students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All string and vocal emphases must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for those with little piano background. All wind and percussion emphases must pass Class Piano 1-2 with a B or better or may substitute the Piano Literacy exam in their place. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music degree in Performance, students will be able to: (1) demonstrate excellence as solo and ensemble performers to provide a basis for a professional career as a musician, (2) demonstrate specific knowledge in music theory, music history, and instrumental pedagogy to provide a basis for a professional career as a

performing musician, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Upper Division Music Electives

Upper division music electives vary per emphasis. Please see the Undergraduate Music Handbook for a full listing.

Winds and Percussion Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Global Awareness Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP H Course 3

Elective 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP H Course 3

Elective 3

Degree Total 120

String Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2290.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2050.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4651.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....3

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Vocal Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2320.....2

MUSC 2270-06.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2325.....2

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....3

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4610 2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

UPS V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP PN Course 3

A&S Core Global Awareness Course 3

Degree Total 120

Keyboard Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4600.....2

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....5

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 4650.....3

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Bachelor of Music Education

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All music majors must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for majors with little piano background. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music Education degree, students will be able to: (1) demonstrate skill as solo and ensemble performers who can work as professional educators, (2) demonstrate specific knowledge in music theory, music history, and instrumental and vocal pedagogy to provide a basis for a professional career as a music educator, (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music, and (4) demonstrate the pedagogical background and teaching experience to function as effective K-12 music educators.

University and College Requirements

In addition to the major requirements listed below, students must complete all university requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music Education - Brass, Woodwind, & Percussion Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 1370.....1

MUSC 2000-level Applied Lessons II.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4070.....3

MUSC 4455.....3

MUSC 4705.....1

MUSC 4750.....1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4380.....2

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 121

Bachelor of Music Education - String Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1352 2

MUSC 1340.....1

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4715 1

MUSC 4465.....3

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 126

Bachelor of Music Education - Vocal Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

MUSC 2320.....2

MUSC 2270-06.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4790.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 124

Graduate Study

The Department of Music offers programs leading to the Master of Music in Performance and to the Master of Music Education.

The following prerequisites and credit hours will pertain to individual lessons for all the instruments and voice listed below. All students enrolled in MUSC 5080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in Individual Lessons.)

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Music requires that applicants for graduate programs submit supplementary documentation of their preparation for advanced study in music.

Those interested in graduate study in music are encouraged to contact the Graduate Studies Coordinator for the Department of Music, Dr. Beth Vanderborgh (bvander@uwyo.edu), or the Area Coordinator for each instrument or voice cited on the Department of Music website (www.uwyo.edu/music/).

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html):

- three letters of recommendation
- the Graduate Teaching Assistantship application
- academic transcripts

A minimum undergraduate cumulative GPA of 3.000 is required. The GRE is not required for admission consideration.

All accepted graduate students in the Mast of Music (MM) or Master of Music Education (MME) programs will take the Graduate Entrance Examinations in music history and music theory prior to matriculation. If a student does not pass one or more sections, they must take an online refresher course prior to undertaking advanced coursework.

International applicants who are not native English speakers must submit TOEFL or IELTS scores (TOEFL minimum = 76, IELTS minimum = 6.5). If an international applicant wishes to be considered for a Graduate Teaching Assistantship, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center if you have questions regarding the OPI (www.uwyo.edu/elc/international-teaching-assistants/graduate_admissions/index.html).

Applicants for the MM program should also request an audition and apply for music scholarship consideration via the Audition and Scholarships link found on the Graduate page of the Department of Music website (www.uwyo.edu/music/graduate_students/index.html). Applicants for the MME program should send their supporting documents (video of teaching/rehearsing, statement of music education philosophy, writing sample) directly to Dr. Crystal Sieger, Music Education Coordinator (csieger@uwyo.edu).

Master of Music Education

An earned, documented Bachelor of Music Education degree from an accredited institution of higher learning.

One year of teaching experience plus: An active background in music education, A DVD of classroom teaching and/or rehearsing,

A one- to three-page statement of music education philosophy,

Three letters of recommendation, one from an immediate supervisor, of teaching effectiveness.

A writing sample from an extensive undergraduate research paper.

Learning Outcomes

1. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing skills necessary to enhance their teaching abilities in a P-16 vocal and/or instrumental teaching position.

2. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing/and communication skills necessary to solve contemporary music problems.

Master of Music in Performance

An earned, documented bachelor of music performance or bachelor of arts from an accredited institution of higher learning.

Live audition (preferred), live remote video audition, or lnks to an online video demonstrating:

A strong sense of musicality, Technical proficiency, Stylistically correct performance practices in at least three historical periods, where applicable,

A working knowledge of the standard repertoire,

Also, a portfolio of work showing concentrated activity on the major instrument or voice area.

Learning Outcomes

1. Graduate students will be excellent performers on voice or instrument.

2. Graduate students will demonstrate the advanced musical and pedagogical knowledge and research writing stills necessary to begin their professional performing career and/or demonstrate their readiness to teach at the college and/or university level and/or pursue

doctoral degrees.

Program Specific Graduate Assistantships

Graduate assistantships are awarded on a competitive basis to defray some of the costs of graduate study and to provide practical experience working under the guidance of faculty members.

Criteria that are taken into account in awarding assistantships include: academic preparation, performing ability, and special skills that would prove valuable in carrying out the duties of the assistantship, as well as, needs of the department.

To be considered for a graduate assistantship, the candidate must be fully admitted through the university. The application for an assistantship is accessed via the UW Graduate Admissions application. After considering the merits of the application, the department then nominates candidates to the university. Applications for assistantships are due by February 15.

Program Specific Degree Requirements

Master's Programs

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Basic music core (11 hours)

MUSC 5310. Bibliographical Research, 2 hours

Upper-division music history, 3 to 6 hours

Upper-division music theory, 3 to 6 hours

Major area courses (12-16 hours)

Thesis requirement (Plan A, four hours); (Plan B, zero hours)

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

Electives (0 to 7 hours)

Master of Music Education Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic music core, (11 hours)

Major area courses (12 - 15 hours)

EDRE 5530. Introduction to Research, 3 hours

MUSC 5760. Music Education Seminar, 2 hours

MUSC 5720. Music Supervision, 2 hours

Music education electives, 5-8 hours

Thesis requirement (0 to 4 hours) Plan A:

MUSC 5960. Thesis Research, four hours (the thesis must be on a music education topic), or

Plan B: Plan B paper, plus extra courses, 0 hours Electives (4 to 7 hours)

Master of Music in Performance Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic music core (11 hours minimum)

Major area courses (16 hours minimum)

MUSC 5480-5670. Private Lessons in major instrument or voice. A minimum of 8 hours.

MUSC 5770-5890. Ensembles, 2 hours

MUSC 5680. Graduate Recital, 2 hours.

A faculty jury must approve a recital given for credit one month prior to the performance.The faculty jury will determine the grade after the performance.

MUSC 5390. Performance Practice and Interpretation, 2 hours

MUSC 5320. Advanced Seminar, 3 hours MUSC 4***. Pedagogy (instrument specific), 2 hours

Requirement in lieu of thesis:

Plan B paper, or 1-hour lecture-recital

Foreign language requirement (voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Both degrees require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music (MUSC)

Individual Lessons: All students enrolled in MUSC 2080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in individual lessons.)

Students must receive a "C" or better in all courses designated MUSC to satisfy department degree requirements. A student's transfer courses in music must also reflect a "C" or better to be accepted for credit.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB♦Q]).

Department of Philosophy and Religious Studies

Philosophy

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/philosophy/index.html
E-mail: philosophy@uwyo.edu
Department Head: Robert S. Colter

Professors:

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2013.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

SUSANNA L. GOODIN, B.A. Texas Technical University 1981; M.A. Rice University 1985; Ph.D. 1990; Associate Professor of Philosophy 1998, 1992.

EDWARD D. SHERLINE, B.A Princeton University 1982; M.A. University of Chicago 1983; Ph.D. University of Illinois-Chicago 1990; Associate Professor of Philosophy 1996, 1989.

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Associate Professor of Philosophy 2022, 2018.

Assistant Professor:

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Assistant Professor of Philosophy 2018.

Senior Lecturer:

ROBERT S. COLTER, B.A. The University of Puget Sound 1992; M.A. University of Colorado 1995; Ph.D. Northwestern University 2001; Senior Lecturer 2021, 2013, 2007.

Assistant Lecturer:

LINDSAY RETTLER, B.A. Biola University 2005; M.A. Western Michigan University 2010; Ph.D. The Ohio State University 2015; Assistant Lecturer 2022**.**

Professors Emeriti:

James Forrester, Richard L. Howey, James A. Martin

About the Program

Philosophy starts with those hard questions we all ask at some time or another. Some important questions of meaning and justification can't be answered by making observations or doing experiments. Philosophy is the effort to deal with these problems through sustained, hard, and critical thinking. Philosophy is good preparation for careers that call for you to use your mind, without prejudice but with rigor.

The Philosophy Department offers an undergraduate major, and three undergraduate minors.

For details on each of these programs, see the department's web site.

Religious Studies

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/relstudy/
Email: relstudies@uwyo.edu
Department Head: Robert S. Colter
Program Director: Tyler Fall

Professor

PAUL V. M. FLESHER, B.A. University of Rochester 1979; M.Phil. Oxford University 1982; Ph.D. Brown University 1988; Professor of Religious Studies 2012, 1993.

Assistant Professors

CATHERINE HARTMANN, B.A. University of Virginia in 2011, M.A. University of Chicago 2013, Ph.D. Harvard University 2020; Assistant Professor of Religious Studies 2020

TAMMY HEISE, B.A. Hendrix College 1998; M.A. Vanderbilt University 2006; Ph.D. Florida State University 2016; Visiting Assis¬tant Professor of Religious Studies 2015, Assistant Professor of Religious Studies 2020.

Senior Academic Professional Lecturer

TYLER S. FALL, B.A. Mary Washington College 1999; M.A. University of Oregon 2004; M.F.A. University of Wyoming 2009; Associate Academic Professional Lecturer of Religious Studies 2017, 2012.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 1999; Associate Academic Professional of Religious Studies 2017, 2012.

About the Program

Throughout history, religion has played an important role in shaping cultures and societies. Religious beliefs have inspired armies in their wars and leaders in their decisions. Re¬ligions have provided the foundation for ethi¬cal behavior and in many societies have been the primary source of education. In today's world, religions remain important, influencing our responses to 9/11, the Arab Spring, the Philosophy and Religious Studies, Middle East crisis, and other events in regions around the world. Even in our own secular United States, religions and their beliefs play a major role in our debates over public policy.

The Religious Studies department offers a range of courses in the academic study of reli¬gions. These courses seek to acquaint students with religious beliefs and behavior, helping them to understand the ability of religions to define the world in which their adherents live and the power religions have to influence the behavior of their followers. Religious Studies courses cover a broad range of religions, both modern and historical. Some courses focus on understanding a single religion in a limited time period, while others compare aspects of different religions. Yet further courses focus on religious expression, studying how religious beliefs are depicted in literature, film, art and music. Many of these courses are offered by the Religious Studies department, while others can be found in various departments, including anthropology, art, English, history and sociology.

Graduate Study

At present, no program for a graduate degree in religious studies is offered; however, some courses may be counted at the graduate level.

School of Politics, Public Affairs, and International Studies

Arts and Sciences Building, Room 208

(307) 766-6484

Web site: **www.uwyo.edu/sppais**

School Head: **Stephanie Anderson**

SPPAIS Faculty:

Professors:

STEPHANIE B. ANDERSON, B.S.F.S. Georgetown University 1989; M.Sc. The London School of Economics and Political Science 1990; Ph.D. University of Cambridge 1996; Professor of Political Science 2017, 2005.

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

ANDREW D. GARNER, B.S. Kennesaw State University 2002; Ph.D. University of Mississippi 2007; Professor of Political Science 2014, 2008.

JEAN A. GARRISON, B.A. University of Wyoming 1990; M.A. University of South Carolina 1992; Ph.D. 1996; Professor of Political Science, International Studies 2010, 2001.

BRENT L. PICKETT, B.A. Wichita State University 1989; M.A. University of Colorado at Boulder 1991; Ph.D. 1995; Professor of Political Science - Casper 2010, 2005.

ROBERT A. SCHUHMANN, B.S. Appalachian State University 1987; M.P.A. 1989; Ph.D. Virginia Polytechnic Institute and State University 1995; Professor of Political Science 2013, 1995.

Associate Professors:

NEVIN AIKEN, B.A. University of Western Ontario 2003; M.A. 2004; Ph.D. University of British Columbia 2010; Associate Professor of Political Science and International Studies 2016, 2010.

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.

NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Assistant Professor of Geography and International Studies 2016.

ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Assistant Professor of Geography and International Studies 2016.

JUSTIN T. PICCORELLI, B.A. Loyola Marymount University 2004; M.P.A. Cleveland State University 2009; Ph.D. 2014; Assistant Professor of Public Administration 2015.

THOMAS R. SEITZ, B.S. University of the State of New York 1988; M.A. University of Kent at Canterbury 1989; Ph.D. University of Cambridge 1997; Associate Professor of International Studies 2015, 2009.

Assistant Professors:

JASON B. MCCONNELL, B.S. University of Wyoming 1998, MA 2003, J.D. 2005; Ph.D. Washington State University 2017; Assistant Professor of Political Science 2018.

GABEL C. TAGGART, B.S. Brigham Young University 2010; M.P.P. 2013; Ph.D. Arizona State University 2017; Assistant Professor of Public Administration 2018.

RYAN D. WILLIAMSON, B.A. University of Alabama at Birmingham 2011; Ph.D. University of Georgia 2017; Assistant Professor of Political Science 2023.

Senior Academic Lecturer:

ANNE ALEXANDER, B.B.A. New Mexico State University, 1991; M.S. 1993; Ph.D. University of Wyoming, 2001; Senior Academic Lecturer, 2019, 2013; Interim Provost and Vice President for Academic Affairs 2020.

Associate Lecturer:

RUTH BJÖRKENWALL, B.A. University of California at Berkeley, 1989; M.A. 2004; Associate Lecturer 2018, 2013.

Professors Emeriti:

Winberg Chai, Larry Hubbell, James King, Garth Massey, Margaret M. Murdock, Stephen C. Ropp, Oliver Walter

Associate Professor Emeritus:

Alan E. Schenker

Adjunct Faculty:

(see department section following name for academic credentials)

Tanja Börzel, political science, Freie Universitaet Berlin

Roger Coupal, agriculture and applied economics

Michael Harkin, anthropology

Mark Peterson, management and marketing

Thomas Risse, political science, Freie Universitaet Berlin

Amy Roberts, elementary and early childhood education

Chris Rothfuss, international studies

Mona Schatz, social work

Ed Sherline, philosophy

J.J. Shinker, geography

Jim Thurman, international studies, political science - Central Wyoming College

International Studies

Undergraduate Learning Outcomes

- Goal 1: International Studies majors learn to recognize and rigorously examine economic, political, and social-cultural dimensions of international processes and issues.
- Goal 2: Majors develop expertise in an interdisciplinary concentration of their choice, either "Development Studies" or "Security Studies," both of which are in high demand in public, private, and nonprofit sectors.
- Goal 3: Majors learn the importance of distinctions between world regions, as well as to explain the global economic, political, and social-cultural processes by which they are interrelated.
- Goal 4: Majors achieve basic proficiency in a second language and appreciate the benefits of that language for engaging with international processes and issues, including through experiential learning in a foreign locale.
- Goal 5: Majors develop critical reading, writing, analysis, and engagement skills that prepare them for work in internationally oriented government agencies, private enterprises, nonprofits, and nongovernmental organizations

Graduate Learning Outcomes

All students who graduate with a Master's degree in international studies will be able to:

Engage in independent empirical inquiry that makes an original contribution to the field of study;

Think critically and reason logically about a problem and the ways it can be answered;

Employ the best recognized methods appropriate to their research;

Effectively develop alternative explanations, use theories and concepts to guide the research project, and conduct the work in such a way that disproof is possible; and

Present their work intelligently, with both written and oral capability at a level of professional expectations.

They will have a broad understanding of:

International affairs;

The diversity of national cultures and social structures;

Political and economic systems;

Major global trends and problems

Political Science

Political Science is the study of how societies govern themselves and interact with one another. Courses of instruction in the Political Science major are offered in the following subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration. Areas of focus include analysis of government structures and processes, citizens' influence on government, policy content, philosophical concepts and traditions, political systems of other states, and resolution of conflicts between nations. By developing critical thinking and analytical skills, the major prepares students for effective participation in the political process, successful careers in the public and private sectors, and further study in law, political science, and public administration.

In 1925, the state legislature passed a law requiring the study of the U.S. and Wyoming constitutions by all University of Wyoming students. Political Science 1000 satisfies this requirement, but the requirement can also be satisfied by special examination given periodically by the School of Politics, Public Affairs, and International Studies.

Learning Outcomes

We continuously and actively assess the Political Science undergraduate curriculum to ensure that the following learning outcomes are being met for each of our graduates:

1. Acquisition of a knowledge and understanding of the values, beliefs, and institutions that constitute governing processes;
2. Acquisition of an understanding of the distinctions among the major subfields of the discipline including: American politics and law; international relations; comparative politics; and political theory;
3. Development of a knowledge and understanding of citizens' roles within governing processes;
4. Acquisition of a knowledge of the theories and analytic skills necessary to evaluate conflicting arguments, assemble and present appropriate evidence, and make reasoned conclusions from the evidence available;

5. The ability to communicate effectively, both orally and in written form.

Undergraduate Major

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours. Students are required to complete the following four introductory courses: POLS 1000; POLS 1200 or POLS

1250; POLS 2310; and POLS 2460 or POLS 3600. Students are also required to take at least one seminar in political science

(and its prerequisites); 8 hours of a single foreign language or equivalent credit by examination as determined by the

Department of Modern and Classical Languages; STAT 2050 or STAT 2070; and a minimum of 9 hours of upper division credit in political science. A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Undergraduate Minors

The school offers optional undergraduate minors in American politics, international relations and comparative government, public law, and political theory. Eighteen hours are required in each minor, including 9 hours of upper-division courses and one seminar. A maximum of 3 hours of internship credit may be applied towards the 18 hours required for the political science minor. At least 12 credit hours in a minor must be from courses not counted toward the student's major. Information relating to specific courses fulfilling minor requirements may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Teacher Education

The teacher certification program in Secondary Social Studies Education, with a concurrent major in Political Science is available through the College of Education. A minimum 2.500 UW grade point average and a 2.500 grade point average in Political Science and Social Studies content are required to change majors. Further information may be found under the College of Education section in this Catalog.

Graduate Study

The Master of Arts and the master of public administration are offered by the School of Politics, Public Affairs, and International

Studies. The school's mission is to give graduate students an understanding of the theories and methods necessary for success in (1) research or in post-baccalaureate study in any of the subfields in political science, (2) high school teaching in social science, or (3) careers in policy analysis or public administration in local, state, or federal government, or international governmental, non-profit, or non-governmental organizations. Our graduate students have progressed to senior positions in government, the U.S. Foreign Service, and international organizations; they have

pursued rewarding careers in education and the private sector; and they have advanced to Ph.D. programs in political science and related fields.

Department of Psychology

135 Biological Sciences Building,
(307) 766-6303
FAX: (307) 766-2926
Web site: www.uwyo.edu/psychology
Department Chair: Sean McCrea

Professors:

KAREN BARTSCH ESTES, B.S. Colorado State University 1981; M.A. Oxford University 1983; Ph.D. University of Michigan 1988; Professor of Psychology 2007, 1992.

KYLE P. De YOUNG, B.S. University of Iowa 2004; M.A. State University of New York at Albany 2008; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

MATTHEW J. GRAY, B.A. Creighton University 1993; M.S. Drake University 1995; Ph.D. University of Mississippi 2000; Professor of Psychology 2014, 2002.

CYNTHIA M. HARTUNG, B.S. University of Wisconsin-Madison 1990; M.A. University of Kentucky 1993; Ph.D. University of Kentucky 1998; Professor of Psychology 2019, 2007.

ALISON R. LOOBY, B.A. University of California-San Diego 2002; M.A. State University of New York at Albany 2007; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

SEAN M. McCREA, B.A. Bucknell University 1996; Ph.D. Indiana University 2002; Professor of Psychology 2019, 2009.

CHRISTINE L. McKIBBIN, B.S. Michigan State University 1991; M.S. University of North Texas 1994; Ph.D. University of North Texas 1997; Professor of Psychology 2019, 2007.

CAROLYN M. PEPPER, B.S. Western Michigan University 1989; M.A. State University of New York at Stony Brook 1992; Ph.D. State University of New York at Stony Brook 1995; Professor of Psychology 2011, 2002.

BENJAMIN M. WILKOWSKI, B.A. Ohio University 2002; M.S. North Dakota State University 2005; Ph.D. North Dakota State University 2008; Professor of Psychology 2020, 2008.

Associate Professors:

JOSHUA D. CLAPP, B.A. University of Wyoming 2003; M.A. State University of New York at Buffalo 2008; Ph.D. 2012; Associate Professor of Psychology 2018, 2012.

MEREDITH E. MINEAR, B.S. University of Illinois at Urbana-Champaign 1994; Ph.D. University of Michigan 2004; Associate Professor of Psychology 2019, 2013.

Assistant Professors:

KAYLA A. BURD, B.A. Hofstra University 2010; M.A. Cornell University 2016; Ph.D. 2018; Assistant Professor of Psychology 2020.

ERIN HARRINGTON, B.S. Valparaiso University 2015; M.S. Oklahoma State University 2017; Ph.D. Oklahoma State State Universit, 2021; Assistant Professor of Psychology 2023.

CHRISTINA MCDONNELL, B.A. University of Notre Dame 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

HANNAH PHALEN, B.A. University of Colorado Colorado Springs 2015; M.S. Arizona State University 2018; J.D. Arizona State University 2019; Ph.D. Arizona State University 2023; Assistant Professor of Psychology 2023.

KASEY STANTON, B.S. Montana State University 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

Clinical Professors

CATHERINE P. CARRICO, B.A. Austin College; Ph.D. University of Northern Colorado; Clinical Associate Professor 2020.

ANNE STEVENS, B.A. Davidson College 2007, M.A. Appalachian State University 2014; Ph.D. University of Wyoming 2020; Clinical Assistant Professor of Psychology 2021.

Academic Lecturer:

JARROD BOCK, B.S. University of Wisconsin-La Crosse 2013; M.S. University of Wisconsin-Oshkosh 2015; M.S. Oklahoma State University, Stillwater 2017; Ph.D. Oklahoma State University, Stillwater; Assistant Lecturer in Psychology 2024.

TARA K. CLAPP, B.A. State University of New York at Buffalo 2005; M.S. Niagara University 2010; Senior Academic Professional Lecturer in Psychology 2018, 2012.

SCOTT FRENG, B.S. Black Hills State University 1995; M.A. University of South Dakota 1998; Ph.D. University of Nebraska - Lincoln 2001; Senior Lecturer in Psychology 2013, 2003.

MARIA I. KUZNETSOVA, B.A. Syktyvkar State University-Russia 2000; M.S. University of South Carolina-Aiken 2005; Ph.D. Virginia Commonwealth University 2011; Senior Academic Professional Lecturer in Psychology 2017, 2011.

Professor Emeritus

George Blau, David Estes, Charles J. Ksir, Karen B. Nicholas, Narina Nunez

Department Overview

The Department of Psychology offers coursework at several levels:

1. Introductory courses for students in other programs who wish an elementary knowledge of psychology.
2. Courses supportive of work in other majors.

3. An undergraduate major that is sufficiently flexible to allow students to prepare for graduate programs in psychology, professional schools (e.g. law, medicine) or for employment after graduation.
4. Graduate course work leading to the Ph.D. in clinical psychology, social psychology, cognition/cognitive development, or psychology and law.

Facilities are available for course work and laboratory experiences in areas of psychology such as clinical, cognition, personality, social, biological psychology, cognitive development, and psychology and law.

Students who wish to increase chances of employment related to their undergraduate majors should consult an adviser concerning areas of specialization within psychology.

Students planning graduate work in psychology should consult with their faculty adviser concerning career choices and development.

Credit by Examination

Credit by examination will be allowed only for PSYC 1000. The examination accepted is the College Level Examination Program (CLEP); the passing score is 50.

Advanced Placement

The psychology department will accept a score of 4 on the AP exam for credit in PSYC 1000, effective Fall 2015.

Department of Theatre and Dance

2099 Buchanan Center for the
Performing Arts, (307) 766-5100
Email: theatre_dance@uwyo.edu
Web site: uwyo.edu/thd/
Department Head: Christie Zimmerman

Professors:

CECILIA ARAGÓN, B.S. McMurry University 1991; M.A. University of New Mexico 1996; Ph.D. Arizona State University 2003; Professor of Theatre & Dance 2017, 2005.

CHRISTIE ZIMMERMAN, B.A. University of New Orleans 2000; M.F.A. University of California, Irvine 2002; Professor of Theatre & Dance 2023.

Associate Professors:

Assistant Professors:

ERIN CARTER, B.F.A. Webster University, 2016; M.F.A. University of Tennessee, Knoxville, 2019; Assistant Professor, Theatre & Dance, 2023.

MATTHEW GREENBERG, B.F.A. Ithaca College, 2015; M.F.A. The Ohio State University, 2021; Assistant Professor, Theatre & Dance, 2022.

SCOTT TEDMON-JONES, B.F.A. University of Wyoming, 2001; M.F.A Carnegie Mellon University, 2010; Assistant Professor, Theatre & Dance, 2018.

CAT KAMRATH MONSON, B.A. Loyola Marymount University, 2013; M.F.A. University of Utah, 2016; Assistant Professor, Theatre & Dance, 2022.

AARON WOOD, B.F.A. University of Wyoming, 2003; M.F.A. University of Utah, 2007; Assistant Professor, Theatre & Dance, 2022.

Assistant Lecturers:

JASON BANKS, B.F.A. University of Florida 2004; M.F.A. The Ohio State University 2007; Assistant Lecturer, FTRC, 2020.

LANDEE LOCKHART, B.T.D. University of Wyoming, 2001; B.A. University of Wyoming, 2001; M.F.A. University of Houston, 2006; Assistant Lecturer, FTRC, 2022.

JULIANA FREUDE, B.A. University of Toledo, 2018; M.F.A. St. Mary's College of California, 2020; Assistant Lecturer, FTRC, 2022.

Emeritus Professors:

Larry Hazlett, Rebecca Hilliker, Leroy Hodgson, Marsha Knight, Patricia Tate, Ron Steger, Lee Selting, Margaret Wilson

Degrees Offered

The Department of Theatre and Dance offers curricula leading to the Bachelor of Arts (BA) degree and the Bachelor of Fine Arts (BFA) degree and courses which fulfill a part of University Studies and various colleges' requirements, including the College of Arts and Sciences.

Curricula

Students may not take a course for S/U credit to satisfy course requirements in the major. This does not apply to courses offered for S/U only. Requirements for students majoring in the areas of the department are indicated below.

Theatre

The study of theatre provides students with a broad understanding of the art of theatre in a liberal arts college. The study of theatre is considered to provide a basis for more specialized theatre study in a graduate or professional school. The liberal arts education in theatre together with extensive experience in the production program also provides the foundation for a professional career in theatre, motion pictures, or television drama for those individuals with special desires and abilities. Secondary teaching certification in theatre can be obtained through this program of study.

Dance

The dance concentration within the Department of Theatre and Dance is designed to provide students with a broad foundation in the humanities and specific emphasis in performance and production aspects of dance. Students pursuing this course of study will have opportunities to attain technical competency in ballet and/or modern dance, to perform in yearly dance productions, to obtain practical experience in the fundamentals of teaching dance and to gain experience in technical theatre as an aid to dance production. The program seeks to provide a comprehensive view of dance as an artistically expressive medium, as well as a creative and recreational tool to human expression.

Students completing this program will qualify for more advanced private instruction as well as advanced academic instruction.

All dance students are matriculated into the BA degree. Students wishing to apply for the BFA in Dance Performance or BFA in Dance Science do so the second semester of their freshman year.

Students must receive a C or better in all courses designated THEA to satisfy department degree requirements. A student's transfer courses in Theatre and Dance must also reflect a C or better to be accepted for credit. A grade of C- does not meet the requirement.

Outcomes:

Our goal is to nurture artists and scholars within aesthetic, social, critical, historical and contemporary performance and dance idioms, who appreciate cultural literacy and respect diversity, who think critically, who master discipline-specific performance and production skills, and who foster knowledge and make compelling artistic choice on stage.

The Theatre and Dance Department expects that upon graduation all students will be able to:

- Demonstrate or detail the basic production process and make an informed assessment of quality in all areas of theatre and dance,
- Honor and represent historical, contemporary, and cultural diversity in academic and performance settings,
- Articulate the intersection of their personal, aesthetic, and social/political ideas in relation to a particular play, performance work or production,
- Develop collaborative skills, communicate effectively and function in a variety of contexts with self-knowledge, resilence, and resourcefulness, both in performance and in creation,
- Understand the demands and expectations of the profession,
- Synthesize and utilize knowledge from courses in the breadth of the discipline,
- Recognize and be familiar with postgraduate training opportunities in professional theatre, dance and academia.

Scholarships

A number of scholarships are available to interested majors in theatre and dance. Please visit www.uwyo.edu/thd/scholarships/index.html for more information.

Departmental Activities/ Organizations

The department sponsors one of the largest all-student activities on campus. Nearly 150 students take part in its productions each season. All students are eligible to participate in its productions through auditions.

Productions are mounted in the Buchanan Center for the Performing Arts which includes a flexible proscenium theatre, thrust theatre and experimental-studio theatre complete with scenic and costume support facilities.

Auditions are publicly announced for each production. Qualified students may receive credit in performance and production areas (THEA 2050).

Graduate Study

At present, no program for graduate degrees in theatre and dance is offered.

College of Business

Scott Beaulier, Dean
Phone: (307)766-4194 FAX: (307)766-4028
Peter M. and Paula Green Johnson Student Success Center (307) 766-8249

The College of Business prepares students for careers by providing quality education in business disciplines, creating, and disseminating knowledge, and assisting in Wyoming's economic development. The College of Business expects the highest level of integrity from our administration, faculty, staff, students, and alumni.

The College of Business grew from its roots established in 1899 when the UW School of Commerce was founded. While the programs offered have changed over the years, the college remains passionately committed to academic excellence and positive student experiences.

The college has three academic departments: accounting and finance; economics; and management and marketing. The college also houses the College of Business Peter M. and Paula Green Johnson Student Success Center (GJSSC) which is instrumental in maintaining the college's link with the business world.

These units are committed to preparing all College of Business students to enter our rapidly changing world. Successful graduates are fully prepared to compete in their chosen professions or in graduate school. More importantly, they are well-educated individuals prepared to live fulfilling lives, and to meet the challenges presented by the complex ethical, moral, and cultural contexts of our times.

College of Business Learning Outcomes

The College of Business expects that its graduates:

1. Will be competent in their field of study
2. Will be effective problem solvers
3. Will be ethical
4. Will be professional
5. Will be effective communicators

AACSB Accreditation

The business degree programs offered by the College of Business are accredited by AACSB-International. AACSB standards ensure that College of Business students are provided with comprehensive, high-quality, well-rounded degree programs. The "Common Body of Knowledge" as described on the following pages has been developed to meet the AACSB accreditation standards.

A minimum of 50% of COB courses required for the major must be taken from the degree-awarding institution.

Programs of Study

Undergraduate Degrees

BSB - Bachelors of Science in Business
BSE - Bachelors of Science in Economics

The Majors are as follows:

- Accounting, B.S.B. (BSB-ACCT)
- Business Economics, B.S.B. (BSB - CBEC)

- Economics, B.S.E (BSE - ECON)
- Entrepreneurship, B.S.B (BSB - ENTR) ·
- Finance, B.S.B (BSB - FIN)
- Management, B.S.B. (BSB - MGT)
- Marketing, B.S.B. (BSB - MKT)
- Professional Sales, B.S.B. (BSB - SELL

The Minors are as follows:

- Banking and Financial Services Minor
- Blockchain Minor
- Data Analytics Minor
- Economics Minor
- Entrepreneurship Minor (for nonbusiness students only)
- Hospitality Business Management Minor
- Leadership Minor
- Professional and Technical Selling Minor
- Real Estate Minor

Graduate Degrees

Master of Science
Accounting, M.S.
Economics, M.S.

Business Administration, M.B.A.

Business Administration, Online, M.B.A.

Doctor of Philosophy
Economics, Ph.D.
Marketing and Management, Ph.D.

Certificate Programs
Certified Financial Planning Certificate (Graduate)
Energy Business Certificate (Graduate)

Student Services

Academic Advising

All College of Business undergraduate students are advised by professional academic advisors in the College of Business Peter M. and Paula Green Johnson Student Success Center. Advising can be reached by e-mail (success@uwyo.edu) or by phone (307) 766-2063.

Career Services

The Career Services unit connects students and employers in ways that lead to meaningful experiences and job opportunities. Students also can apply for local, national, and international internships starting their first year and may receive credit for their work. Networking with employers is highly encouraged and offered through a series of fairs, events, and in-class projects. One-on-one assistance and workshops are also available to students for things such as: internship or job searching; resume creation, review, or targeting; and career coaching or counseling. Individual appointments may be scheduled by email (success@uwyo.edu) or by phone, (307) 766-4159.

Student Responsibilities

College of Business students are responsible for knowing and meeting requirements for graduation. Students have a variety of tools at their disposal, including their degree evaluation and the catalog to check these requirements, and can utilize their academic advisor throughout the year for questions and clarifications.

All students must have already completed any prerequisites listed, including having the appropriate class standing. Students not meeting the prerequisites are identified and administratively dropped from those courses each semester.

Requirements for the Bachelor of Science Degree

I. University Studies Requirements:

All students seeking a bachelor's degree must satisfy the University Studies Program (USP) requirements. The specific courses required can be found under the USP section in the catalog.

II. Common Body of Knowledge: (excludes B.S.E. in Economics)

College of Business majors are required to take a common set of courses that expose them to the basic concepts, processes, and technical skills necessary to complete a well-rounded high-quality business education. The common body of knowledge includes ACCT 2010, ACCT 2020, DSCI 2100, ECON 1010, ECON 1020, FIN 2100, IMGT 2400, MGT 2010, MGT 2100, MKT 2100, and MGT 4800. Grades of C (not C-) or above required.

III. Major Requirements

Major requirements can be found under each major's page within the catalog.

IV. Free Electives

Students must achieve a total of 120 credit hours to complete their bachelor's degree. Of those 120 credit hours, students must have 48 hours of upper-division credit.

Minimum requirements:

Candidates for the Bachelor of Science degree in the College of Business must:

- Achieve a cumulative College of Business and UW institution grade point average of at least 2.500.
- Complete 50% of the business credit hours from UW.
- Earn grades of C or above in common body of knowledge and major specific core courses.
- Earn a passing score on the Senior Exit Exam required for all College of Business majors.
- Economics majors also must hold a minimum 2.500 grade point average for all economics courses.

Students <u>may not</u> take courses for S/U (satisfactory/unsatisfactory) credit to satisfy university studies or college requirements, course requirements in the major, or courses outside the college required by the major department curriculum.

Acceptance of Transfer Credit

The College of Business complies with UW policies regarding transfer credit discussed in the front section of this bulletin. The college has special course transfer arrangements with Wyoming community colleges that allow some courses taken at community colleges at the lower-division (freshman-sophomore) level to transfer for upper-division (junior) credit. Wyoming community college transfer students should contact the College of Business Peter M. and Paula Green Johnson Student Success Center (GJSSC) for details.

Students transferring from other AACSB accredited colleges and universities will have their courses reviewed for transfer on a course-by-course basis.

The College of Business does not accept transfer credits for COB courses with equivalents at UW when the grade earned was less than a C.

Where appropriate, College of Business course equivalency will be granted for transfer courses at the 3000 and 4000 level if such coursework was completed at an AACSB or EQUIS institution only. Any coursework completed at an institution that does not meet that qualification will not be considered for upper-division equivalency.

The UW College of Business is AACSB accredited and therefore follows AACSB's current guidelines* to maintain accreditation.

The primary goal of this transfer policy is to ensure coursework accepted from other institutions is comparable to coursework required by our college's degree programs and ensure that the majority of learning is completed at the institution awarding the degree while simultaneously allowing measured flexibility in acceptance of transfer credits as allowed by AACSB accreditation in support of student progress and degree completion.** For example, at the time of this policy's creation, the number of business credit hours for the College of Business's undergraduate majors is fifty-four (54) credit hours (this includes the business common body of knowledge courses). Therefore, to align with AACSB standards, a minimum of twenty-seven (27) credit hours of business coursework in the major must be earned in residence at the University of Wyoming.

In addition to the transfer policies defined in the University of Wyoming catalog, the College of Business has established the following policies in support of AACSB Standards governing the transfer of credit for equivalent business courses. Courses will be considered for transfer according to the additional criteria below. Students may transfer up to a total of twenty-seven (27) hours of business credits, either solely lower division courses or a mix of lower division and upper division courses, as follows:

- Students may transfer up to twenty-seven (27) lower division (1000/2000 level) business credits to the Common Body of Knowledge.
    - Lower division courses from regionally accredited institutions will be evaluated for equivalency and approved by the UW Office of the Registrar annually.
- Students may transfer up to nine (9) upper division (3000/4000 level) business credits according to the following guidelines:
    - Transferring upper-division business credits to be included in the twenty-seven (27) credits reduces the number of lower-division credits a student can transfer.
    - Courses from AACSB/EQUIS accredited institutions will be evaluated for equivalency and approved by the College of Business.
    - Courses from regionally accredited, non-AACSB/EQUIS institutions will be accepted as upper division elective credit in accordance with the transfer policies defined in the University of Wyoming catalog.
    - The College of Business has collaborative provisions (detailed in separate articulation agreements) that allow students from Wyoming's community colleges to transfer up to nine (9) credit hours of 2000 level coursework to satisfy up to nine (9) credit hours of 3000 level coursework that has been evaluated by the College of Business. These courses will be evaluated annually for equivalency***.

* A requirement of the accreditation process (as reflected in Standard 6 of the 2020 Business Standards) is for accredited colleges to have clear policies regarding transfer coursework.

** As noted by AACSB: "transfer credit related to business disciplines is normally limited to no more than half of the program requirements" (2020 AACSB Standards, p. 13).

*** Per college-specific articulation agreements, students may be able to transfer coursework satisfying completion of the following courses: ACCT 3070, ACCT 3230, ACCT 3240, or ACCT 3430.

Accounting, Management, and Marketing Online Programs

The College of Business offers the opportunity to pursue online degree programs in accounting, management, and marketing, accredited by AACSB and delivered through distance education. These online delivery programs are designed to help students maximize their flexibility in the business world.

Students will be required to apply to UW and meet UW admissions criteria prior to enrolling in any College of Business program. Students must also attain a 2.500 GPA for graduation for both College of Business and UW courses, complete and submit an anticipated graduation date form, and must pass the Senior Exit Exam (BUSN 4990) to graduate.

To ensure the availability of required courses in this program, enrollment into courses is managed and approved by the College of Business Peter M. and Paula Green Johnson Student Success Center (GJSSC).

College of Business Minors

Minors are available to on-campus students through the College of Business in the areas of banking and financial services, blockchain, data analytics, economics, entrepreneurship (not available to College of Business majors), hospitality business management, leadership, professional and technical selling, and real estate. Minor requirements may often be met by simply focusing on the elective credits available in a student's major.

A minimum grade of C must be earned in each course. Certification of a successful minor program completion occurs as part of the DegreeWorks progress report, and the Office of the Registrar notes the completion of the minor on student transcripts. Minors must be approved by the Peter M. and Paula Green Johnson Student Success Center (GJSSC).

Students must have a minimum of 2.500 cumulative UW GPA. Students must maintain a cumulative 2.500 GPA in the required College of Business courses for the minor to be awarded. A minimum of 50% of COB courses must be taken from the degree-awarding institution.

Cooperative Undergraduate Programs

The Concentration in Environment and Natural Resources

College of Business majors may earn a concurrent-major in Environment and Natural Resources (ENR) in cooperation with the UW School of Environment and Natural Resources. The appropriate use of natural resources and awareness of the environmental consequences of decisions have become key issues for businesses. Exposure to ideas, skills, and sensibilities in these areas is critical to future businesspeople. For more information call the ENR office at (307) 766-5089.

Graduate Study

The College of Business is comprised of three academic departments: accounting and finance, economics, and management and marketing. The faculty of these departments cooperate in the presentation of graduate work leading to the following degrees:

Master of Business Administration

Master of Science in Accounting

Master of Science in Economics

Doctor of Philosophy in Economics

Doctor of Philosophy in Marketing and Management

The College of Business faculty is passionately committed to the excellence of its graduate programs. The graduate programs in the College of Business are accredited by AACSB International. The three academic departments coordinate course offerings to support all the graduate degree programs; the M.B.A. program is a college-wide effort.

Cooperative Graduate Programs

The Concentration in Environment and Natural Resources

College of Business graduate students may earn an interdisciplinary minor in environment and natural resources (ENR) in cooperation with the UW School of Environment and Natural Resources. The appropriate use of natural resources and awareness of the environmental consequences of decisions have become key issues for all areas of business and economics. The School of Environment and Natural Resources is designed to move beyond the strictly disciplinary design and management of their long-term solutions. The school seeks to attract outstanding graduate students from a variety of disciplines, who are eager to pursue careers that engage other professionals, policymakers, and the public in finding innovative ways to resolve complex environmental and natural resource issues. To pursue a minor in ENR, students must first be admitted to another master's or doctoral degree program offered at the University of Wyoming. For more information call the ENR office at (307) 766-5080.

Department of Accounting and Finance

252 East Business Building,
(307) 766-3807
FAX: (307) 766-3802
Web site: www.uwyo.edu/acct-fin
Department Chair: Mitchell Oler

Professor:

ALI NEJADMALAYERI, B.Sc. University of Tehran 1993; M.B.A. Texas A&M University-Kingsville 1997; Ph.D. University of Arizona 2001; Professor of Finance 2018.

Associate Professors:

NICOLE CHOI, B.A. Chungbuk National University 2002; M.B.A. Washington State University 2004; Ph.D. 2009; Associate Professor of Finance 2015.

MITCHELL OLER, B. of Commerce, University of Alberta 1997; M.S. Brigham Young University 1998; Ph.D. University of Washington 2006. Associate Professor of Accounting 2019, 2015.

KENNETH ZHENG, B.A. Southwestern University of Finance and Economics, China; M.S. University of Texas at Dallas 2007; Ph.D. University of Texas at Dallas, 2011; Associate Professor of Accounting 2021, 2015.

Assistant Professors:

TA-TUNG (STEPHANIE) CHENG, B.S. National Chengchi University 2010; M.S. Michigan State University 2013; Ph.D. Georgia State University 2020; Assistant Professor of Accounting 2020.

MACKENZIE FESTA, B.S. West Virginia University 2010; M.P.A. 2013; Ph.D. 2017; Assistant Professor of Accounting 2017.

TREVOR SORENSEN, B.S. Brigham Young University 2010; M.S. Brigham Young University 2010; Ph.D. 2016; Assistant Professor of Accounting 2022.

PATRICK WITZ, B.B.A. University of Massachusetts at Amherst 2012; Ph.D. Cornell University 2020; Assistant Professor of Accounting 2020.

Academic Professionals:

JAMES GUNDERSON, B.A. University of Nebraska 1977; Ph.D. University of Minnesota 2004; Assistant Lecturer of Finance 2014.

JENNIFER A. KREISER, B.S. University of Alabama 2001; M.S. 2002; Senior Lecturer of Accounting 2019.

STEVEN LUPIEN, B.S. Sacred Heart University; M.A. Finance Fairfield University; Lecturer and Director of the Center for Blockchain and Digital Innovation; 2019.

ANDREW MCKAMEY, B.S. Colorado State University; M.S. Colorado State University; Assistant Lecturer of Accounting 2020.

PHILIP W. TREICK, B.S. University of South Florida 1987; Assistant Lecturer of Finance 2016.

Emeriti:

Penne L. Ainsworth
Richard G. Elmendorf
George R. McGrail
Suzanne S. Roe
Frederic P. Sterbenz
Kenton B. Walker
Stuart K. Webster

Accounting Major

The basic objectives of the accounting program are twofold: to provide students who do not intend to major in accounting with the basis for understanding the role accounting plays in business today and to provide those students who desire to major in accounting with the educational background necessary for lifelong learning and a rewarding career in the accounting profession. The curriculum offered by the department attempts to blend the conceptual with the practical. Exposure to the underlying conceptual framework of accounting provides a basis for dealing with emerging accounting and tax issues, while examination of technical pronouncements enables students to gain insight into practical issues encountered in an accounting environment.

Accounting majors may enter the professional world of accounting from a variety of directions. Choices available in the form of elective courses enable students to chart a course that leads them toward public accounting, private accounting, governmental or not-for-profit accounting, as well as other specialties that rely on a strong accounting background. Those students seeking professional certification, such as the CPA, CMA or CIA, are able to satisfy requirements to sit for these professional examinations by completing the undergraduate accounting degree.

All accounting majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All accounting courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the College of Business Peter M. and Paula Green Johnson Student Success Center in the College of Business Building.

Please Note:

Students who anticipate taking the CPA examination should be aware of the Wyoming statute governing eligibility to sit for the exam. Please see the state board's web site for information: cpaboard.state.wy.us. The current combined curricula (B.S. and M.S.) enable students to satisfy the educational requirements for a CPA licence in Wyoming and other jurisdictions.

Graduate Study

Accounting is an integral part of the College of Business degree programs. The department offers courses in support of college graduate degree programs, as well as a master of science in accounting (MS in Accounting) degree. The MS in Accounting degree was developed in response to emerging needs of the accounting profession. Those students who wish to become professional accountants, whether that be in a corporate setting, a not-for-profit setting, or public accounting, will find the MS in Accounting enables them to develop both the personal and professional skills needed to enjoy a productive career.

The MS in Accounting program, in addition to an undergraduate degree in accounting from the University of Wyoming, will satisfy the education requirements for the CPA license in Wyoming. The curriculum focuses on the two main areas of development: 1) advanced accounting and business education, and 2) professional skills development-including written, oral, interpersonal communciation, computer applications, critical thinking and adaptability.

The MS in Accounting degree is designed for students who have completed an undergraduate degree in accounting in the United States. However, it is possible to be admitted to the program once deficiency courses are successfully completed. Those holding a bachelor's degree from within the U.S., but not in accounting, and international applicants can still apply for admission once the deficiency courses are successfully completed. We do not provisionally or conditionally admit students to our program.

Program Specific Admission Requirements

Admission to the Master of Science in Accounting program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.

- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U. S. Department of Education site.

- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.

• GRE or GMAT optional. A strong GRE or GMAT score may be considered to offset deficiencies in other areas of your application (such as a GPA below 3.0, limited work experience, etc.).

• Official transcripts of all undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Office of Admissions at 1000 E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the department Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.

• Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.

a• Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

NOTE: These are the minimum requirements and do not guarantee admisson or funding. The University of Wyoming MS in Accounting program does not provisionally or conditionally admit students.

*Please refer to the AICPA Site (www.aicpa.org) to check on the requirements you will need to fulfill in your state if you plan to sit for the CPA Exam.

Additional requirements for International Applicants:

• Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 540 on the paper-based test (TOEFL PBT) or a score of 76 on the internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 6.5. Waivers for the English Language proficiency requirement may be granted according to the UW policy found on the admnissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html.

Additionally, to be admitted to the Master of Science in Accounting program, a student demonstrate competency in the following subject matters/courses:

• ACCT 3230 Intermediate I & ACCT 3430 Intermediate II (External Financial Reporting)

• ACCT 3240 Cost I (Advanced Managerial Accounting)

• ACCT 3070 Tax I (Tax Accounting, must cover US income taxation for individuals)

• ACCT 4060 Audit I (must cover US Generally Accepted Auditing Standards and/or International Standards on Auditing)

*These courses may be completed through any regionally accredited university or college. A minimum grade of B (a 3.0 on a 4.0 scale) is considered evidence of proficiency.

*Evidence of proficiency in these areas can also be demonstrated by relevant professional experience on a case-by-case basis. Please contact the program office for additional information.

Each candidate who applies to the University of Wyoming Master of Science in Accounting program is evaluated individually by our faculty and program directors. We consider each part of the application in a holistic assessment, including the candidate's reasons for pursuing the degree, interview responses, prior academic performance, work experience, and letters of recommendation.

Students are admitted on a rolling basis with applications evaluated as soon as they are completed. It typically takes no more than two weeks to receive an admission decision.

Application Deadlines

Fall Admission

- Block 1 Final Deadline: July 1
- Block 2 Final Deadline: September 15

Spring Admission

- Block 1 Final Deadline: December 1
- Block 2 Final Deadline: September 15

Summer Admission

- Final Deadline: April 1

International applicants: Please be advised that there are additional university requirements that may take additional processing time - you are encouraged to apply prior to the application deadline if possible to ensure that if admitted, all required documentation can be provided prior to the term of entry.

Program Specific Degree Requirements

Master of Science in Accounting

The objectives of the master of science in accounting degree program are:

- To provide students with an advanced understanding of the field and sub-topics within accounting,
- To provide students with professional skills that will enable them to enjoy productive and rewarding careers in accounting and other accounting-related areas.

The program consists of a minimum of 30 semester hours of graduate coursework. Students must complete coursework in accounting and elective business and/or non-business areas. Eighty percent of the student's total coursework must consist of 5000-level courses; the remaining 20 percent may be 4000-level non-accounting courses (approximately six hours). Non-accounting courses should be selected in consultation with the student's graduate adviser. Non-accounting courses at the 4000-level may be taken during the senior year of undergraduate study and applied to the master's program, but they must be reserved for graduate credit and approved by the graduate program director, prior to the first day of such classes.

Students must take these 4 core accounting courses (minimum 12 credit hours):

ACCT 5030. Advanced Financial Accounting

ACCT 5040. Seminar in Managerial Accounting

ACCT 5060. Auditing II

ACCT 5070. Tax II

Any accounting course at the 5000+ level that has not been used to meet any other primary major requirement.

A maximum of six hours may come from 4000- level courses offered in the College of Business or in other colleges at the University of Wyoming.

NOTE: ACCT 4010, 4020, 4050, 4060, 4100, 4900, and 5000 are not applicable for M.S. accounting students' programs of study.

The student must complete the required coursework (both graduate and prerequisite) with a minimum GPA of 3.000 (on a 4.000 scale).

Any student falling below a cumulative GPA of 3.000 is automatically placed on probation for the following semester and must raise their GPA to 3.000 to avoid dismissal.

Students must maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Finance Major

Modern business is characterized by its emphasis upon finance. The application of sound financial management principles often will be the difference between success and failure in business.

Courses prescribed for those who wish to major in finance are designed to provide a background for financial management of business concerns and, if students desire, to specialize in bank management, corporation finances and investment management. Since financial policies of business enterprises are subject to economic principles which make all businesses financially interdependent and sensitive to disturbances in the economic structure, students in this field should study the economic, as well as the technical, administrative aspects of finance and accounting.

All finance majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All finance courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the Academic Advising unit of the GJSSC of the College of Business Building.

Department of Economics

260W Business Building
Web site: www.uwyo.edu/economics
Department Chairman: Alexandre Skiba

John S. Bugas Chair in Economics:

TODD CHERRY, B.S.B.A. Appalachian State University 1992; M.A. University of North Carolina Greensboro 1995; Ph.D. University of Wyoming, 1999. Professor of Economics, Graduate Director, 2020.

H.A. (Dave) True, Jr. Chair in Petroleum and Natural Gas Economics:

CHARLES F. MASON, A.B. University of California 1977; Ph.D. 1983; Professor of Economics 1994, 1982.

Stroock Chair of Natural Resource and Environmental Economics:

JASON F. SHOGREN, B.A. University of Minnesota-Duluth 1980; Ph.D. University of Wyoming 1986; Professor of Economics 1995.

Wyoming Excellence Chair in Conservation Economics:

H. JO ALBERS, B.S. Duke University 1985; M.E.S. Yale University 1987; Ph.D. University of California at Berkeley 1993; Professor of Economics 2014.

Wyoming Excellence Chair in Economics and McMurry Fellow:

DAVID C. FINNOFF, B.S. University of Wyoming 1994; Ph.D. 2001; Professor of Economics 2018, 2004.

Professors:

DAVID M. AADLAND, B.A. Augustana College 1991; M.S. University of Oregon 1996; Ph.D. 1997; Department Chairman, 2018; Associate Professor of Economics 2005, 2003.

TIMOTHY J. CONSIDINE, B.A. Loyola University 1975; M.S. Purdue University 1977; Ph.D. Cornell University 1981; Professor of Economics 2008.

Associate Professors:

ROBERT GODBY, B.S. Trent University 1990; M.A. University of Guelph 1992; Ph.D. McMaster University 1997; Center for Energy Economics and Public Policy Director, and Associate Professor of Economics 2003, 1997.

ALEXANDER JAMES, B.A California State University Chico, 2006; Ph.D. University of Wyoming, 2012; Associate Professor of Economics 2023.

THORSTEN M. JANUS, B.A. University of Copenhagen 2000; M.A. University of California at Santa Cruz 2003; Ph.D. 2006; Associate Professor of Economics 2012.

STEPHEN NEWBOLD, B.S. University of California, Davis 1995; M.S. 2002; Ph.D. 2002; Associate Professor of Economics 2018.

ALEXANDRE SKIBA, Specialist Diploma Rivne State Technical University 1999; M.S. Purdue University 2001; Ph.D. 2003; Associate Professor of Economics 2019, 2012.

LINDA THUNSTROM, M.S. Umea University, Sweden 1999; Ph.D. Umea University Sweden 2008; Associate Professor of Economics 2013.

KLAAS T. VAN 'T VELD, B.Sc. University of London 1992; M.S. University of California Berkeley 1993; Ph.D. 1997; Associate Professor of Economics 2010, 2004.

Assistant Professors:

NINO ABSHIDZE, B.A. Tbilisi State University 2011; M.A. International School of Economics 2013; M.A. North Carolina State University 2017; Ph.D. North Carolina State University 2019; Assistant Professor of Economics 2023.

Academic Professionals:

TYLER KJORSTAD, B.A. College of St. Scholastica 2009; M.S. University of Minnesota-Duluth 2012; M.S. University of Wyoming 2014, Director of Undergraduate Studies in Economics.

Professors Emeriti:

Thomas D. Crocker, Owen R. Phillips, Sherrill Shaffer

Economics Undergraduate Major

The science of efficient allocation, economics has much to offer students in the way of general and specialized preparation for positions in business, as well as government and the academic profession.

This program allows considerable flexibility for the student to specialize in interdisciplinary study. For example, the student can be advised on selecting upper level division courses for pre-law study, political economy, environmental and natural resources, women's studies, and international studies.

Students who intend to continue in graduate work should give special attention to courses in economic theory, statistics and mathematics. Those planning a career in mathematical economics or econometrics should consult the department head regarding the mathematics and statistics requirements in these fields of study.

Business Economics Major

All Business Economics majors must comply with requirements of the advanced business standing prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed.

This program allows students to explore a plethora of courses in the College of Business, giving them a diverse exposure to courses in accounting, finance, economics, marketing, management, and decision science. This allows an expanded view in other fields within the College of Business while focusing on economics.

These programs are designed to meet the requirements of AACSB International (the Association to Advance Collegiate Schools of Business), the University of Wyoming, and the College of Business.

50% of the business credit hours must be from the University of Wyoming.

A complete curriculum guide is available from the Peter M. & Paula Green Johnson Student Success Center in the College of Business.

Minimum requirements for Economics and Business Economics majors include:

Must hold a 2.500 cumulative grade point average in all economics courses at graduation, as well as a minimum 2.500 cumulative UW grade point average and a minimum 2.500 grade point average in all College of Business courses.

Minimum of 42 semester hours of 3000+ level courses. 30 of the 42 hours must be earned from UW.

Grade of C or above required for University Studies Program: FY, Cl, C2, and C3.

Grade of C or above required for common body of knowledge and major specific core courses.

A maximum of 6 hours at the 1/2000 level and 3/4000 level military science may be applied to degrees in the College of Business.

With approval of the department chair, students may substitute work in certain areas of accounting, agricultural economics, business administration, history, political science, finance, mathematics, statistics or law for 6 hours of 4000-level economics courses.

Graduate Study

The Department of Economics offers programs leading to a master of science degree in economics and the doctor of philosophy degree in economics.

Program Specific Admission Requirements

Economics Program

Admission to the economics graduate programs is granted to students who show high promise of success. Candidates of high promise generally have a cumulative grade point average of 3.000 or better (A=4.000) and score above 300 (for MS) and 310 (for PhD) combined on the verbal and quantitative sections of the GRE, with particular emphasis on strong quantitative and analytical scores. Such scores and grades do not guarantee admission.

The TOEFL is required for international students in accordance with University rules.

The Department of Economics requires that students have completed courses in intermediate micro and macro theory (ECON 3010, ECON 3020 or equivalent), statistics, and 6 hours of introductory calculus (MATH 2200, MATH 2205 or equivalent) for the MS program. A course in linear algebra (MATH 2050) is required for the PhD program.

Program Specific Degree Requirements

Master of Science in Economics

A minimum of 18 hours in economics is required; at least 15 of these must be at the 5000 level. A basic core sequence of ECON 5010 (macro), 5390 (math micro), 5530 (computational), 5230 (econometrics), and 5300 (game theory) is required, which completes 15 hours of 5000-level courses, which is required.

The student must complete 26 hours of coursework and 4 hours of ECON 5960 Thesis Research for the Plan A option. The student must complete 30 hours of coursework and a project for the Plan B option.

Students may take 4000-level courses for graduate credit up to 6 hours.

A maximum of 6 semester hours of graduate coursework not used toward any other degree from another institution may be applied to the M.S. economics program subject to regulations regarding transfer of credit listed in this bulletin and with the approval of the director of graduate studies.

At the beginning of the third semester, the student selects a major professor who directs the Plan A thesis or Plan B project. A graduate committee, nominated by the major professor, the student, and the department chair, conducts an oral examination of the student on the project or thesis and area he/she has studied in the program. A favorable report by the committee and approval by the Office of the Registrar complete the degree requirements.

The majority of students complete the M.S. degree within two years.

QuickStart Master of Science in Economics

UW undergraduates can complete the M.S. degree in just one year after completing their B.S. degree if they apply to the QuickStart M.S. program in their junior year. To be eligible, students must have (and maintain) a cumulative GPA of 3.200 or better as well as an Economics GPA of 3.200 or better. They are also required to take the GRE by the fall of their senior year and score above 300 combined on the verbal and quantitative sections combined. The GRE requirement can be waived by the Graduate Director or Director of Undergraduate Stuides. Two letters of reommendation from UW economics faculty members are also required. Admission to the QuickStart program allows students to double-count 6 credits of courses taken as an undergraduate towards both the B.S. and M.S. degrees, and reserve an additional 6 credits of courses taken as an undergraduate towards the M.S. degree alone. This then leaves only 18 credits to be taken after completion of the B.S. degree, which is feasible in just one year.

Doctoral Program

Doctor of Philosophy in Economics

The doctor of philosophy degree in the field of economics at the University of Wyoming requires a minimum of 42 hours of coursework. All coursework must be at the graduate (5000) level.

The program is designed to give the student a strong foundation in economic theory and the basic quantitative tools necessary for professional research. If students receive a grade lower than an **A** during their first year, they must take a comprehensive exam in that field (microeconomics and/or econometrics) during the summer to continue to the second year of the PhD program. Students who do not pass the comprehensive exam are dismissed from the program. They may continue to pursue an MS degree at the discretion of the Program Director and Department Chair. The program's qualifying exam takes the form of a research paper written during the second summer and defended to, and approved by, a faculty committee by early in the third year, with revisions and resubmission required by December. Students who pass the qualifying paper requirement receive an MS degree and move on in the PhD program, while students who fail this requirement are dismissed from both the MS and PhD programs.

During the third year, or no later than the first few weeks of the fourth year, a graduate committee nominated by the student's major professor and the director of graduate studies conducts an oral examination of the student. The purpose of the oral examination is to determine whether the student has formulated a workable dissertation project and has the necessary skills to complete it.

Following successful completion of the dissertation, and completion of a departmental requirement of 30 hours of dissertation research, the student presents an oral defense to the graduate committee. The doctor of philosophy degree is granted on recommendation of the committee and approval by the Office of the Registrar, providing all other requirements have been satisfactorily fulfilled.

Department of Management and Marketing

College of Business 354, (307) 766-3124
FAX: (307) 766-3488
Web site: business.uwyo.edu/mgtmkt
Department Chairman: Chase Thiel

Professors:

JEFF COVIN, B.S University of Pittsburgh 1979; MBA Indiana University of Pennsylvania 1981; Ph.D. University of Pittsburgh 1985, Professor of Entrepreneurship 2023.

PATRICK M. KREISER, B.A. John Carroll University 1997; M.B.A. University of Alabama 1999; Ph.D. 2004; Professor of Management and Rile Chair of Entrepreneurship and Leadership 2021, 2018.

MARK LEACH, B.S. University of Arizona 1991; Ph.D. Georgia State University 1998; Professor of Marketing 2016.

C. MARK PETERSON, B.A. University of Virginia 1978; M.S. Georgia Institute of Technology 1989; Ph.D. 1994; Professor of Marketing 2014, 2007.

LINDA PRICE, B.A. University of Wyoming; M.B.A. University of Wyoming; Ph.D. University of Texas Austin; Professor of Marketing 2020.

RONN J. SMITH, B.S. Montana State University 1999; M.A. Montana State University 2000; Ph.D. Washington State University 2004; Associate Professor of Marketing 2020.

ROBERT D. SPRAGUE, B.S.B.A. University of Denver 1980; J.D. 1985; M.B.A. University of Southern California 1999; Professor of Legal Studies in Business 2016, 2004.

CHASE THIEL, B.S. Idaho State University 2009; M.S. University of Oklahoma 2009; Ph.D. 2012; Professor of Management 2024, 2016.

Associate Professors:

GRANT L. LINDSTROM, B.S. Utah State University 1981; M.B.A. University of Utah 1986; Ph.D. 1989; Associate Professor of Management 1996, 1990.

ELIZABETH A. MINTON, B.S. University of Alaska Southeast 2008; M.B.A. Idaho State University 2010; Ph.D. University of Oregon 2014; Associate Professor of Marketing 2018, 2014.

STEPHANIE A. ONETO, B.S. University of Nebraska-Lincoln 1999; M.A. University of Houston 2001; Ph.D. 2007; Associate Professor of Marketing 2014, 2007.

NICHOLAS PRINCE, B.S. Kansas State University 2004; M.B.A. Brigham Young University 2009; Ph.D. University of Illinois Urbana-Champaign 2015; Associate Professor of Management 2024, 2016.

Assistant Professors:

RYAN BAILEY, B.B.A. University of Tulsa 2010; M.B.A. University of Tulsa 2019; Ph.D. University of Oklahomoa 2023; Assistant Professor of Entrepreneurship 2023.

CAMERON BORGHOLTHAUS, B.S. Idaho State University 2012; Ph.D. University of Nebraska-Lincoln 2021; Assistant Professor of Management 2024.

MOLLY R. BURCHETT, B.A. Transylvania University 2009; M.A. University of Kentucky 2014; Ph.D. University of Kentucky 2020.

ABHAY GROVER, B.S. Punjab Agricultural University 2012; M.S. Iowa State University 2017; Ph.D. University of Maryland 2024; Assistant Professor of Supply Chain Management 2024.

JACOB HOLWERDA, B.A. Cornell University 2006; M.S. Cornell University 2009; Ph.D. Cornell University 2014; Assistant Professor of Management 2020.

SAMUEL H. MATTHEWS, B.S. Brigham Young University 2013; M.S. Brighamm Young University 2013; Ph.D. University of Oklahoma 2013; Assistant Professor of Management 2023.

NICOLINA TAYLOR, B.B.A Texas State University 2017; M.S. Southern Methodist University 2018; Ph.D. University of Texas, Arlington 2022; Assistant Professor of Management 2024.

Academic Professionals:

COREY A. BILLINGTON, B.S. Stanford University 1981; M.S. 1981; Ph.D. 1987; Professor of Practice 2015.

CASEY FROME, B.S. University of Wyoming 2009; M.P.A. 2014; J.D. 2014; Assistant Lecturer 2018.

MARIA JENKS, B.S. Miami University 1986; M.B.A. Rockhurst University 2017; Assistant Lecturer 2023.

ERIC J. KRSZJZANIEK, B.A. University of Wisconsin-Stevens Point 2005; M.A. University of Wyoming 2014; Ph.D. 2018; Assistant Lecturer 2018.

GREG C. LIVINGSTON, B.A. University of Wyoming 1996; M.A. 2018; Assistant Lecturer 2018.

Professors Emeriti:

Robert E. Allen, John H. Jackson, Anthony F. McGann, Richard C. McGinity, J. Brooks Mitchell, Terri L. Rittenburg, Robert G. Roe, Philip E. Varca, Larry R. Weatherford

The Department of Management and Marketing offers programs of study leading to the Bachelor of Science in Business degrees in (1) Management, (2) Marketing, (3) Entrepreneurship, and (4) Professional Sales. The departmental requirements for each of these degree programs are listed in the program sections below.

College of Business 3000- and 4000 level courses are reserved for those with junior or senior level standing whether majors or non-majors unless otherwise noted.

Decision Sciences

The decision sciences courses are a supplement for students with a variety of majors. The curriculum proides analytic skills based in both numerical data and behavioral evidence to facilitate problem solving, planning/project management, and decision making within organizations and across supply chains.

Entrepreneurship

The Entrepreneurship major is designed to assist students who wish to start their own businesses by providing them with exposure to the development and testing of business concepts. Analyzing the potential success of their concepts using a variety of tools and techniques, being flexible in developing new businesses and innovative ideas, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures. The major provides students with exposure to issues involving family firms such as governance, succession and interpersonal relationships as well as innovation and change in existing organizations. Thus, the major focuses on entrepreneurship in both new ventures and established firms and prepares students to 1) start new businesses, 2) innovate in their own family firms, and/or 3) be entrepreneurial in an existing business.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Management

The Management major focuses on using resources to achieve goals in organizations. It studies the activities and operations that bring together human, financial, material, and information resources. Management majors should graduate with an understanding of the business world and a set of tools to manage successfully parts or all of an organization's operations. The Management degree allows students the ability to customize their degree within one of three focus areas:

1) Human Resources Focus - An experiential-learning focused program designed to prepare students to develop and manage the human capital of an organization.Students will be prepared to develop and implement policies and practices for recruitment, socialization, training, development, compensation, performance management, career planning, and employee relations. As more organizations move away from viewing employees as a commodity, toward an understanding that employees are a resource that can be developed into a distinct competitive advantage to ensure organizational success, sustainability, and reputation in the human resource function in the workplace will become increasingly important. This focus area will help employees understand the core functions of the area of human resource management are to a) recognize the potential of individuals for and within an organization and b) structure a positive, supportive, constructive work environment that will enable employees to work at their optimal capacity and achieve organizational goals.

2) General Management Focus - A multi-faceted program designed to prepare students to manage multiple business functions across a variety of organizational types. A particular emphasis is to help develop interpersonal and problem-solving skills so they are capable of resolving a broad spectrum of problems for large or small organizations, or consult with organizations about these issues. This focus area is designed to provide students with a large degree of flexibility when considering different career paths, because students will be prepared to systematically think through the processes that organizations use to create and maintain sustainable competitive advantage. The focus will help prepare students to work in for-profit businesses, non-profit organizations, entrepreneurial ventures, or in government organizations.

3) Management Hospitality Focus - An experiential-learning focused program designed to provide students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, entrepreneurship, and consumer relations. Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

The Management major, including focus areas, are available to students as an online degree completion program.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Marketing

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers and for managing relationships in ways to benefit local and global stakeholders. Marketing majors are employed in a wide variety of industries and governmental agencies where understanding and managing customer relationships are critical. Students find jobs in market research, advertising, public relations, professional selling, non-profit marketing, product management, retailing, digital marketing and brand management.

The Marketing Major is available to students as an online degree completion program.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Professional Sales

The Professional Sales major prepares students to manage business clients of for-profit and nonprofit organizations. Specifically, this major provides business students with coursework and opportunities to equip themselves with essential knowledge and skills required to begin professional careers in sales. Careers in sales offer independence, ample financial reward, personal growth and opportunities for rapid advancement within organizations. Students that pursue a degree in professional sales will be challenged with industry engagement opportunities such as internships, and sales competitions. Students experience rigorous classroom experiences designed to develop the knowledge and practical skills needed to succeed during the first years of their sales careers including: oral and written communication skills, selling techniques and networking, the use of sales technology and customer information, and sales pipeline management.

All professional sales majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All professional selling courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Graduate Study

The Department of Management and Marketing offers a Ph.D. in Marketing and Management. Some 4000- and 5000 level classes may be counted as graduate classes in other programs.

Doctoral Program

Doctor of Philosophy in Marketing and Management

The Department of Management and Marketing offers a program leading to a Doctor of Philosophy in Marketing and Management. The program of study draws from extant marketing theory, primarily in consumer behavior, combined with studies in the basic social sciences (e.g., economics, psychology, education, communications) and other applied sciences (e.g., environmental sciences) to create a base of knowledge acceptable for marketing and management scholarship in higher education, and a depth of knowledge conducive to a stream of publishable research in a specific topic area. Theoretical development is supplemented with course work in the gathering and analysis of qualitative and quantitative data, which prepares the student for rigorous exploration of marketing and managerial phenomena. Students are required to complete 72 semester hours and a scholarly dissertation that contributes to the knowledge foundations in marketing or management and contributes to the basic sciences that informed the inquiry. Semester

hours will include core classes from the department graduate faculty, outside elective courses in statistics, basic social sciences, and/or interdisciplinary studies in environmental and natural resources, and dissertation work. First and second year research projects are also required, aimed at the student having published articles in respected marketing management and/or social science journals before program completion. A comprehensive exam is completed at the end of the second semester.

All doctoral students are mentored in both research and teaching. Students are expected to teach while enrolled in the program. The program is designed to give students expertise and demonstrated competency in both Research and teaching.

Application Deadlines

We begin accepting applications in October for the following fall semester. All completed applications must be submitted by February 1st.

Admission Requirements

• A master's degree is preferred but not required. Highly qualified students without a master's degree may receive consideration

• Completed application (i.e., all required materials submitted) on the UW Graduate Programs Applications system

• $50 application fee paid to University Admissions. This covers administrative expenses and will not be waived

• Copies of **all** undergraduate and graduate program transcripts scanned and uploaded to the UW system, and official transcripts from each post-secondary institution attended submitted to the UW admissions office

• A valid GRE (310) or GMAT (650) score. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be requested from the testing organization and sent to UW

• Three strong letters of recommendation, including one or more from an academic. The letters must be uploaded by the recommenders to the UW system in MS Word or .pdf format

• A personal statement summarizing your interest in pursuing doctoral studies and speaking to questions or issues you wish to research. This document must be uploaded to the UW system as an MS Word or .pdf document

• For international students, an English proficiency test is required: Test of Foreign Language (TOEFL), IELTS or DUOLINGO scores are accepted. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be submitted to UW from the testing organization. Minimum scores:

- TOEFL score of 76 (online), 540 (paper) or 207 (computer-based) is required for admission
- IELTS minimum score of 6.5 is required for admission
- Duolingo minimum score of 110 is required for admission

Master of Business Administration (MBA)

Master of Business Administration (MBAM)

MBA & Professional Graduate Programs Office
1000 E. University Ave., Dept. 3275
Laramie, WY 82071
(307) 766-2447

Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

MBA - Campus

Program Overview

The UW MBA Program delivers professional management education that connects principles, concepts, and intense case analysis with real world experience as tools for making business decisions. Students will develop leadership and managerial skills. UW MBAs will possess the education and training to compete in today's rapidly changing global business world.

Class sizes are small and diverse. Courses are taught by a select group of business faculty members. The total program experience (both inside and outside the classroom) is designed to provide experiential learning along with access to powerful networks.

Admission Requirements

A Faculty Admissions Committee, chaired by the Director of the MBA Program, will review all applicants. Application to the program is open to students who have a baccalaureate degree from an accredited university or college. Please view the full list of admission requirements below.

Students whose native language is not English must submit TOEFL results (or another approved English proficiency exam). There are no exceptions for students from other UW colleges and schools seeking dual degrees. If an international applicant wishes to be considered for GA funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI) or an approved alternative to the OPI. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please be advised that our program includes significant class discussion, substantial daily reading, many written assignments, and presentations.

Dual Degree Programs

The following dual degree programs are available:

- MS in Engineering / MBA
- Pharm. D. / MBA
- J.D. / MBA

Students will need to meet all MBA admission requirements and respective dual college/department requirements and be admitted to both degree programs in order to be considered for the dual degree program. The MBA core requirements are required of all students. After successful completion of all requirements, students in the dual degree program will graduate with two graduate level degrees.

Admission to the Master of Business Administration program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site. For students who are applying for the Advanced Accounting Concentration the Bachelor's degree must be in Accounting.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. Based on a 4.0 scale. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.

- GRE/GMAT is not required except when requested by the program director.
- Professional resume.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

Note: These are the minimum requirements and do not guarantee admission or funding.

Prerequisites: No specific prerequisite courses are required. However, evidence of technical proficiency and/or prior business experience from your work history and transcripts are considered in the admissions process. If admitted to the program, all MBA students are required to take our MBA Foundations course, which establishes a baseline level of knowledge in Accounting, Finance, Economics, and Statistics.

Additional International Student Admission Requirements:

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website:https://www.uwyo.edu/admissions/international/english-alternatives.html
- International students must also prove sufficient financial resources as established by the University of Wyoming (Graduate International Student Admissions).

Degree Requirements

- Thirty-six (MBA-MBA) credit hours of graduate coursework, including participation in all MBA Program activities (orientation, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development, International Business Trip, etc.). Please note that students enrolled in any dual degree MBA program are required to complete all MBA participation activities and the core coursework.
- This is a cohort based program and while the course sequence is highly structured, there may be the opportunity to extend the duration of the one-year program. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Course of Study

Pre-Term: All admitted MBA students will complete a Foundations course during orientation, the International Business trip, and the Jackson Leadership Summit. Students may also receive pre-term assignments and/or pre-term prep course material.

MBA Core Requirements (27 credit hours) - Required of all MBA students as well as all Dual Degree MBA students.

- MBAM 5101 MBA Foundations. 1.
- MBAM 5104 Organizational Behavior and HRM. 3.
- MBAM 5107 Executive Leadership I. 1.
- MBAM 5201 Data & Business Analytics. 3.
- MBAM 5204 Financial Management. 3.
- MBAM 5207 Marketing Management. 3.
- MBAM 5208 Accounting for Managers. 3. or MBAM 5208 Managerial Accounting. 3.
- MBAM 5209 Executive Leadership II. 1.
- MBAM 5305 Strategic Management. 3.
- MBAM 5330 Global Business Environment. 3.
- MBAM 5434 Macro Economic Analysis. 3.

MBA Elective Requirements

- Campus-MBA students, must take an additional 9 credit hours of 5000 level College of Business courses. Some credits may be taken outside the college of business with the approval of the program director. Please contact your advisor for additional information.

Students who are participating in the Advanced Accounting Concentration will not take MBAM 5208 or the required electives. Instead, they will take the following classes:

- ACCT5030 - Advanced Financial Accounting. 3.
- ACCT5040 - Seminar in Managerial Accounting. 3.
- ACCT5060 - Auditing II. 3.
- ACCT5070 - Tax II. 3.

Students that would like to participate in the Venture MBA track are expected to take the following electives:

- ENTR 5601 New Ventures. 3.
- ENTR 5602 Strategic Management of Innovation & Technology. 3.
- ENTR 5603 Entrepreneurial Finance. 3.
- 6 credits of Thesis, Independent Study, Practicum, or Internship.

Application Deadlines

- **Fall Admission Only**
  - Final Deadline: June 1
  - Priority Deadline: November 1
  - Wyoming Resident and Scholarship Deadline: March 1

**International Applicants: Please be advised that there are additional* university requirements *that may take additional processing time - you are highly encouraged to apply prior to the application deadline to ensure that if admitted, all required documentation can be provided prior to the beginning of the term of entry.*

Additional Information

Tuition & Fees

Tuition and fee charges will not include the cost of textbooks. Please refer to University of Wyoming cost of attendance for additional information.

MBA Executive Speaker Series

Students participate in weekly meetings (primarily on Fridays) with business leaders from a wide variety of industries (business, government, and non-profit entities). The program takes place mostly on campus, but does include some travel. This program supplements the class work, provides discussion and learnings of business challenges, opens the students' horizons on career opportunities, and provides long-term networking opportunities. Attendance is Required

International Business Trip

The International Business Trip introduces students to themes and trends prevalent in the global business marketplace. The trip includes company visits, cultural experiences, and reflections on the issues individuals and companies face in global business. This experience is associated with MBAM 5330 Global Business, and part of the grade for the course is dependent on the student's performance on the trip. Attendance is required.

Jackson Leadership Summit

Exclusive leadership development event for MBA students to network with an astute panel of individuals with proven business success. Topics usually focus on the global economy and strategic planning. Attendance is required.

Campus to Online MBA Program

Students enrolled in the campus MBA program may, on a case-by-case basis apply credits from the Online MBA program (courses with an MBAX prefix) to their degree, and vice versa. Must be approved by the Program Director.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming. Other requirements involving program dismissal include:

- A student who earns a grade of "D" or lower in any one course will be dismissed from the program. Students may petition to be reinstated into the program.

Online Master of Business Administration (MBAX)

MBA & Professional Graduate Programs Office
1000 E. University Ave., Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

MBA-MBAX - Online

Program Overview

The University of Wyoming offers a flexible Online MBA. The Online MBA Program is specifically designed for experienced business professionals interested in an AACSB accredited, 100% online program that fits their busy schedules. This program is typically completed in two years and is tailored for professionals interested in enhancing their understanding of business disciplines and applying them to decision-making. With starts each Fall, Spring, and Summer, the cohort-based program consists of a minimum 30 credit hours of required coursework.

Program Admission Requirements

A Faculty Admissions Committee, chaired by the Director of the MBA Program, will review all applicants. Application to the program is open to students who have a baccalaureate degree from an accredited university or college. Please see full list of admission requirements below.

Students whose native language is not English must submit TOEFL results, or results of another approved English proficiency exam. There are no exceptions for students from other UW colleges and schools seeking dual degrees. If an international applicant wishes to be considered for GA funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI) or an approved alternative. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please be advised that our program includes significant class discussion, substantial daily reading, many written assignments, and presentations.

Admission to the Online Master of Business Administration program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site.For students who are applying for the Advanced Accounting Concentration the Bachelor's degree must be in Accounting.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. Based on a 4.0 scale. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE/GMAT is not required except when requested by the program director.
- Professional resume. A minimum 2 years' professional work experience is preferred.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

Note: These are the minimum requirements and do not guarantee admission or funding.

Prerequisites: Prerequisite courses may be required as determined by the MBA Director. Please reach out to our office at cobgradprograms@uwyo.edu or 307-766-2482 for additional information.

Additional International Student Admissions Requirements

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html.

Degree Requirements

- Thirty (30) credit hours of graduate credit as outlined in the Course of Study section.
- While the course sequence is structured, there is a lot of opportunity for flexibility. This program can be completed in one or two years most commonly, but longer completion timelines can be discussed. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F.

Course of Study

MBA Core Requirements (21 credit hours) - Required of all MBAX students.

- MBAX 5104 Organizational Behavior & HRM. 3.
- MBAX 5202 Data and Decision Modeling. 3.
- MBAX 5204 Financial Management. 3.
- MBAX 5207 Marketing Management. 3.
- MBAX 5208 Accounting for Managers. 3.
- MBAX 5305 Strategic Management. 3.
- MBAX 5330 The Global Business Environment. 3.

MBA Elective/Concentration Requirements

- MBA-MBAX students must take an additional 9 credit hours of 5000 level College of Business courses.
- Energy Concentration students will complete the additional 9 credit hours of coursework as follows:
    - ACCT 5503 Fundamentals of Accounting in the Energy Industry. 3.
    - MGT 5504 Energy Industry Value Chain. 3.
    - FIN 5502 Energy Finance: Project Evaluation. 3.

Students who are participating in the Advanced Accounting Concentration will not take MBAX 5208 or the required electives. Instead, they will take the following classes:

- ACCT5030 - Advanced Financial Accounting. 3.
- ACCT5040 - Seminar in Managerial Accounting. 3.
- ACCT5060 - Auditing II. 3.
- ACCT5070 - Tax II. 3

Application Deadlines

- **Fall Admission**
    - Block 1 Final Deadline: July 1
    - Block 2 Final Deadline: September 15
- **Spring Admission**
    - Block 1 Final Deadline: December 1
    - Block 2 Final Deadline: February 15
- **Summer Admission**
    - Final Deadline: April 1

**International Applicants: Please be advised that there are additional* university requirements *that may take additional processing time - you are highly encouraged to apply prior to the application deadline to ensure that if admitted, all required documentation can be provided prior to the beginning of the term of entry.*

Additional Information

Tuition and Fees

Tuition and fee charges will not include the cost of textbooks. Please refer to University of Wyoming cost of attendance for additional information.

Online to Campus MBA Program

Students enrolled in the online MBA program may, on a case-by-case basis apply credits from the campus MBA program (courses with an MBAM prefix) to their degree, and vice versa. Must be approved by the Program Director.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming.

College of Business Graduate Certificate Programs

MBA & Professional Graduate Programs Office
1000 E. University Ave,. Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

CERT-MBAE - Energy Business
CERT-CFP - Certificed Financial Planning

Program Overview, Energy Business Certificate

The Certificate in Energy Business is composed of 9-credits of masters-level graduate coursework in the College of Business, with the primary goal of achieving mastery and professional skills common to functional business roles within the energy industry. Specifically:

- Develop a working understanding of the concepts and practices of Supply Chain Management to make strategic support decisions within the energy industry.
- Acquire the foundation necessary to work in the energy industry as a financial statement analyst, manager, auditor, or accountant.
- Utilize core capital budgeting, techno-economic cashflow modeling and other finance concepts to evaluate energy industry project investments.
- Demonstrate effective problem solving, written, and oral communication skills in the context of the energy industry.

Program Overview, CFP Certificate

The Certificate in Certified Financial Planning is composed of 18-credits of masters-level graduate coursework in the College of Business, with the primary goal of providing students with the education, training, and skills necessary to be able to sit for the Certified Financial Planner (CFP) examination. The curriculum is aligned with the CFP® Board's Principal Knowledge Topics and covers principles and practices of essential areas of financial planning, including:

- Wealth Management
- Investment Management
- Tax Planning
- Estate Planning
- Insurance and Retirement Planning

Program Admission Requirements

Admission to the graduate certificate programs generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred (based on a 4.0 scale). If you do not meet the preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE or GMAT Optional. A strong GRE or GMAT score may be considered to offset deficiencies in other areas of your application (such as a GPA below 3.0, limited work experience, etc.), but is not required.
- Professional resume. A minimum 2 years of professional work experience is preferred.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience (no need to schedule a meeting).

Note: These are the minimum requirements and do not guarantee admission or funding. The University of Wyoming College of Business Graduate Certificate programs do not admit students provisionally or conditionally.

CERT-MBAE Prerequisites: Applicants must provide evidence of proficiency in the following areas:

Managerial Accounting

Finance

CERT-CFP Prerequisites: Applicants must provide evidence of proficiency in the following areas:

Business Math and Statistics

Financial Management

*Evidence of proficiency in these areas is considered on a case-by-case basis but is commonly pursued through supplemental courses and/or relevant professional experience. Please contact the program office for additional information.

Additional International Student Admissions Requirements

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html
- On-Campus Education Only: International students must also prove sufficient financial resources as established by the University of Wyoming (Graduate International Student Admissions).

Degree Requirements, Energy Business Certificate

- 9 total credit hours of coursework to include:
    - FIN 5502 - Energy Finance: Project Evaluation. 3.
    - ACCT 5503 - Fundamentals of Accounting in the Energy Industry. 3.
    - MGT 5504 - Energy Industry Value Chain. 3.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Degree Requirements, CFP Certificate

- 18 total credit hours of coursework to include:
    - FIN 5070 Tax Planning for Financial Planners. 3.
    - FIN 5310 Investment Management. 3.
    - FIN 5720 Insurance and Retirement Planning. 3.
    - FIN 5750 Fundamentals of Financial Planning. 3.
    - FIN 5780 Estate Planning. 3.
    - FIN 5800 CFP Capstone. 3.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming. Other requirements involving program dismissal include:

- A student who earns a grade lower than a "C" in any course must retake the course, or withdraw from the program.

College of Education

Education Building, room 6

(307) 766-3145

www.uwyo.edu/education

Jenna M. Shim, John P. "Jack" Ellbogen Interim Dean

Peter Moran: Associate Dean for Graduate Programs

Alan Buss: Associate Dean for Undergraduate Programs

Mark Perkins: Assistant Dean for Assessment, Data, and Reporting

Christi Thompson: Assistant Dean for Student Success

The College of Education prepares teachers, counselors, administrators and other service personnel for positions in public education in Wyoming, throughout the nation, and the world. The teacher education program incorporates content area courses from the various colleges on campus with experiences in educational methodology. Programs are designed to provide students with a maximum amount of experience in the classroom.

Graduates of the College of Education are prepared to deal with youth growing up in a rapidly changing world. Programs are experiential, collaborative, outcomes based, and technologically supported. Emphasis is placed on professional ethics, a commitment to lifelong learning, and respect for all individuals in our culturally diverse society.

Organization of the College

The College of Education includes undergraduate teacher education and graduate studies in education. Schools offering undergraduate and graduate programs in the college include:

- **School of Teacher Education**
- **School of Counseling, Leadership, Advocacy, and Design**

Undergraduate and graduate education are supported by several units. The College of Education Student Success Center, McWhinnie Hall room 100, coordinates activities dealing with academic advising, field experiences, and teacher licensure.

The Wellspring Counseling Clinic provides counseling services to students, staff, faculty of the university, as well as the community at-large.

The College of Education, College of Arts and Sciences, Wyoming community colleges, many Wyoming districts, the Wyoming Professional Teaching Standards Board, and the Wyoming Department of Education are part of the Wyoming School-University Partnership, which grounds collaborative efforts across the state related to K-12 preservice and in-service education.

The Laboratory School, an Albany County School District entity, serves the college, the university, the school district, and the state as an educational center for research, development, instructional advancement, and in-service education. The school enrolls students in pre-school through eighth grade.

The Learning Resource Center is a branch of the university library system. Educational materials are available to serve the needs of K-12 students, university students, university faculty and public school faculty in Wyoming.

The Learning Research Center & Clinic provides a home base for UW faculty and graduate students researching literacy across the lifespan. Connecting, supporting and expanding existing literacy programs across Wyoming. Inviting visiting scholars with literacy research expertise to collaborate and contribute.

Faculty in the College of Education

School of Counseling, Leadership, Advocacy, and Design

School Director: Courtney McKim

Professors:

COURTNEY McKIM, B.S. Boise State University 2006; Ph.D. University of Nebraska 2011; Professor of Educational Research 2023, 2020, 2011.

Associate Professors:

RICHARD CARTER, B.S. Western Carolina University 2010; M.S.E. 2012; Ph.D. University of Kansas 2016; Associate Professor of Special Education 2023, 2017.

AMANDA DeDIEGO, B.S. University of North Georgia 2009; M.S. 2012; Ph.D. University of Tennessee 2016; Associate Professor of Counselor Education 2022, 2016.

MICHAEL M. MORGAN, B.S. Brigham Young University 1993; M.S. Auburn University 1995; Ph.D. Purdue University 2003; Associate Professor of Counselor Education 2011, 2003.

LINDSEY NICHOLS, B.S. University of Connecticut 2002; M.A. University of Connecticut 2003; M.Ed. University of North Carolina at Chapel Hill 2006; Ph.D. Pennsylvania State University 2012; Associate Professor 2019.

W. REED SCULL, B.S. St. Louis University 1983; M.A. University of Nevada-Reno 1989; Ed.D. University of Arizona 1994; Associate Professor 2019.

Assistant Professors:

WILLIAM CAIN, B.A. University of Texas 1994; Ph.D. Michigan State University 2018; Assistant Professor 2018.

JONTHAN CARRIER, B.S. East Tennessee State University 1999; M.S.E. Portland State University 2002; Ph.D. University of the Cumberlands 2017; Assistant Professor of Higher Education Administration 2020.

BARBARA HICKMAN, B.A. University of Minnesota 1985; B.S. University of Minnesota 1986; M.A. Saint Mary's College 1997; Ed.D. Northern Arizona University 2017; Assistant Professor 2019.

MARGARET HUDSON, B.A. University of Wyoming 1989; M.A. 1995; M.A. 2001; Ed.D. 2010; Assistant Professor of Educational Leadership 2022.

JIHYUN LEE, B.A. Daegu University 2006; M.Ed. Korea National University 2012; M.S. University of Wisconsin-Madison 2014; Ph.D. University of Texas-Austin 2018; Assistant Professor 2019.

ROBERT MADDOX, B.S Missouri State University 2005; M.A. Southeast Missouri State University 2009; Ed.S. Southeast Missouri State University 2011; Ph.D. University of Wyoming 2015; Assistant Professor 2019.

LAY-NAH BLUE MORRIS-HOWE, B.S. University of Wyoming 2004; M.S. 2007; Ph.D. 2011; Assistant Professor of Counselor Education 2015.

MARK PERKINS, B.A. Ft. Lewis College 2001; M.A. University of Colorado-Denver 2009; Ph.D. Colorado State University 2014; Assistant Professor of Educational Research, 2020.

MIA WILLIAMS, B.S. Northern Arizona University 1995; M.Ed., 1999 Ph.D 2008 Arizona State University Assistant Professor 2020.

Associate Professional Lecturer:

TIFFANY HUNT, B.S. University of Wyoming 2001; M.S. University of Northern Colorado 2006, Ph.D. 2017; Assistant Professional Lecturer of Special Education 2014.

Professors Emeritus

Martin Agran, Mary Alice Bruce, John Cochenour, Ace Cossairt, Kay Cowie, Michael Day, Deborah McGriff, Alan Moore, Kay Persichitte, Dorothy Yocom, Suzanne Young.

School of Teacher Education

School Director: Scott Chamberlin

Professors:

STEVEN M. BIALOSTOK, B.A. University of the Pacific 1975; M.S.W. California State University - Sacramento 1986; Ph.D. University of Arizona 1999; Professor of Elementary and Early Childhood Education 2000, 2015.

CYNTHIA BROCK, B.S. Oregon State University 1981; MGd Washington State University 1985; Ph.D. Michigan State University 1997; Wyoming Excellence in Education Literacy Chair 2015.

ALAN R. BUSS, B.A. Brigham Young University 1989; M.A. 1993; Ph.D. University of Wyoming 1998; Professor of Elementary and Early Childhood Education 2019, 1997.

SCOTT A. CHAMBERLIN, B.A. Purdue University 1989 and 1993; M.Ed. University of Utah 1998; Ph.D. Purdue University 2002; Professor of Elementary and Early Childhood Education 2015, 2003.

JOHN KAMBUTU, B. A. University of Wyoming 1991; M. A. 1992; Ph.D. 1998; Professor of Educational Studies 2015, 1999.

RICHARD KITCHEN, B.A. University of Colorado-Denver 1984; M.A. University of Montana 1990; Ph.D. University of Wisconsin- Madison 1996; Professor of Secondary Education 2017. Wyoming Excellence in Education Mathematics Education Chair 2017.

PETER WILLIAM MORAN, B.A. University of Wyoming 1987; M.A. Kansas State University 1993; Ph.D. 2000; Professor of Elementary and Early Childhood Education 2017, 2001.

LYDIAH NGANGA, B.S. University of Wyoming 1998; M.S. 2000; Ph.D. 2005; Professor of Elementary and Early Childhood Education 2020, 2005.

LESLIE S. RUSH, B.S. Texas A&M-Commerce 1984; M.Ed. 1996; Ph.D. University of Georgia, 2002; Professor of Secondary Education 2014, 2002.

JENNA M. SHIM, B.A. California State University - Los Angeles 1994; M.M. Manhattan School of Music - New York 1996; M.S. State University of New York - Albany 2006; Ph.D. 2009; Professor of Educational Studies 2016, 2010.

TIMOTHY F. SLATER, B.S. Kansas State University 1989; B.S. Ed. 1989; M.S. Clemson University 1991; Ph.D. University of South Carolina 1993; Professor of Secondary Education 2008. Wyoming Excellence in Education Science Education Chair 2008.

ALLEN TRENT, B.A. Eastern Kentucky University 1986; M.S. University of Dayton 1992; Ph.D. The Ohio State University 2000; Professor of Elementary and Early Childhood Education 2012.

Associate Professors:

TAO HAN, B.A. Sungshin Women's University, Korea 1984; M.A. University of Arizona 1993; M.A. University of Nevada-Reno 2002; Ph.D. 2006; Associate Professor of Elementary and Early Childhood Education 2016, 2010.

ANA HOUSEAL, B.A. University of Iowa 1985; M.A. University of Northern Iowa 1998; Ph.D. University of Illinois 2010; Associate Professor of Elementary and Early Childhood Education 2017, 2011.

AMY ROBERTS, B.S. Indiana University 1986; M.A. Portland State University 1991; Ph.D. Indiana University 1996; Associate Professor of Elementary and Early Childhood Education 2004, 1998.

Assistant Professors:

ANNE AYDINIAN-PERRY, A.B. The University of Chicago 2003; M.Ed. University of Houston 2014; Ed.D. 2021; Assistant Professor of Secondary Social Studies Education 2023.

ALI BICER, B.S. Celal Bayar University 2006; M.S. Texas A&M University 2012; Ph.D. 2016; Assistant Professor of Elementary and Early Childhood Education 2019.

EMANUEL EIDIN, B.A. Bar-Ilan University 2008; MSc. Weizmann Institute of Science 2012; Ph.D. 2018; Assistant Professor of Secondary Science Education 2023.

TODD REYNOLDS, B.A. University of Northern Colorado 1998; M.A. 2004; Ed.S. 2008; Ph.D. University of Wyoming 2015; Assistant Professor of Secondary Education 2019.

ALISON MERCIER, B.S. North Carolina State University 2000; M.S. University of North Carolina 2020; Assistant Professor of Secondary Education 2020.

ANNA PAYNE, B.A. University of Northern Iowa 2004; M.A. University of Iowa; Ph.D. Baylor University 2023; Assistant Professor of Mathematics Education 2023.

Senior Lecturers:

NIKKI BALDWIN, B.A. University of Wyoming 1994; M.A. 2005; Senior Lecturer of Elementary and Early Childhood Education 2020, 2009.

KIMBERLY GUSTAFSON, B.A. University of Wyoming 1998; M.A. 2003; Ed.D. 2010; Senior Lecturer of Elementary and Early Childhood Education 2019, 2007.

Associate Lecturers:

JENNIFER GERINGER, B.A. University of Texas - San Antonio 1991; M.S. University of Wyoming 1997; Ph.D. 2001; Associate Lecturer of Elementary and Early Childhood Education 2022, 2015.

JASON KATZMANN, B.S. Texas Women's University 1994; M.A. Colorado College 2000; Ph.D. University of Northern Colorado 2007; Associate Lecturer of Educational Studies 2016, 2007.

ROD THOMPSON, B.A. University of Nebraska at Kearney 1991; M.A. University of Northern Iowa 1998; Associate Lecturer of Educational Studies 2019.

Assistant Lecturers:

JANET LEAR, B.S. University of Wisconsin-Madison 1990; M.A. University of California, Berkeley 1998; Ph.D. University of Denver 2017; Assistant Lecturer of Educational Studies 2019.

ROSEMARY T. MCBRIDE, B.A. Utah State University 2004; M.S. University of California, Davis 2005; Ph.D. University of Wyoming 2023; Assistant Lecturer of Agricultural Education 2023.

JOSEPH SCHROER, B.A. University of Cincinnati 2002; B.S. 2005; M.A. 2001; Ph.D. 2007; Assistant Lecturer of Educational Studies 2019.

Professors Emeritus:

Michelle Buchanan, Barbara A. Chatton, Margaret Cooney, Lydia Dambekalns, Judith Z. Ellsworth, Linda Hutchison, Jacqueline Leonard, Patricia McClurg, R. Timothy Rush

Accreditation

The College of Education, a member of the American Association of Colleges of Teacher Education, is currently accredited by the National Council for the Accreditation of Educator Preparation (CAEP) and is moving toward the Association for Advancing Quality in Educator Preparation (AAQEP) in 2023-2024. The Wyoming Professional Teaching Standards Board (PTSB) and the North Central Association of Colleges and Schools approve the college as an accredited teacher-preparing institution. The Counseling programs are fully accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

Academic Advising

Students are assigned an academic advisor who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their adviser regularly. The College of Education Student Success Center coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Further information on each program is available in:

College of Education Student Success Center
McWhinnie Hall room 100
Dept. 3374, 1000 E. University Ave.
Laramie, WY 82071

(307) 766-2230

edquest@uwyo.edu

School of Teacher Education

113 McWhinnie Hall, (307) 766-3130
Web site: www.uwyo.edu/ste

School Director: Scott Chamberlin

School of Teacher Education offers a wide variety of undergraduate teacher education degrees and minors, graduate degrees in curriculum and instruction, as well as several endorsement and certificate programs to prepare our students to be successful educators. Explore our diverse programs, career opportunities, and research possibilities with our dynamic faculty members.

Admission to the B.A. and B.S. Programs in the College of Education

New first-time students who meet the University of Wyoming's standards for admission may declare their major in Elementary Education, Secondary Education in a specific content area, or Education Undecided (EDUD), provided that they have a minimum ACT Composite score of 21 and an ACT Math score of 21 or a minimum new SAT combined score of 1060 with a minimum SAT Math score of 530. A lower ACT/SAT Math score can be replaced by a Math Placement Examination (MPE) score of 2 or higher. Education Undecided majors should decide on a specific content area no later than the first semester of their sophomore year.

All incoming students pursuing teacher certification and/or teacher endorsement programs must undergo an initial criminal background check prior to full admission to the College of Education. A second background check is included as part of the state application process for the Wyoming Substitute Teaching Permit, which is required for continuing the B.A. and B.S. programs after 60 credits.

For those students who do not meet the above admissions requirements, it is suggested that they major in exploratory studies (EXPL) so that they will receive more appropriate advising and access to support services through Advising, Career and Exploratory Studies until they have attained a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Current UW students who wish to change their major to Education but do not yet have a UW grade point average must wait until they meet the requirement of a minimum 2.750 UW grade point average, with at least 15 UW credits posted to their transcript. It is recommended that they complete a Program Change form and contact the College of Education Office of Student Success in McWhinnie Hall, room 100 to initiate the background check process. Students' progression through the Education curriculum could be delayed until all requirements are fulfilled and their major officially changed to Education.

Transfer students from out of state institutions, as well as from Wyoming community colleges wishing to declare a major in Education must have completed a minimum of 15 transferable credits, including the USP 2015 "Q" requirement (as determined by the UW Registrar), with a final grade higher than a C- to do so. Transfer students must have a minimum Transfer GPA of at least 2.750 and successfully complete an approved background check.

For transfer students not meeting these requirements, it is suggested that they major in exploratory studies (EXPL) so that they will receive more appropriate advising and access to support services through Advising, Career and Exploratory Studies until they meet requirement of a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Re-admitted students who return to UW after two or more semesters away, and wish to (re-)declare a major in Education, must have a minimum 2.750 UW GPA (with at least 15 UW credits) to do so and successfully complete an approved background check.

The following curricula summarize the programs offered by the College of Education. Students complete content courses in their major as well as professional education courses, some of which can also be counted towards their University Studies Program requirements. The University Studies Program requirements include:

FY course or USP elective Credits: 3

Communication I (COM1) Credits: 3

Communication II (COM2) Credits: 3

Communication III (COM3) Credits: 3

Quantitative Reasoning (Q) Credits: 3

Physical and Natural World (PN) Credits: 6

Human Culture (H) Credits: 6

U.S. & Wyoming Constitutions (V) Credits: 3

The minimum total credit hours required to complete a degree in Education is 120. Of the minimum credit hours required to complete a program, 42 credit hours must be completed at the upper division level (3000-level or higher), with 30 of those credits being completed at UW. Additional College of Education requirements are:

1. 2.750 UW Total Institution grade point average

2. 2.500 grade point average in the content courses required for each specific major

3. A valid Wyoming substitute teaching certificate

Academic Advising

Students are assigned an academic advisor who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their advisor regularly. The College of Education Student Success Center coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Further information on each program is available in:

College of Education Student Success Center

McWhinnie Hall, room 100

Dept. 3374, 1000 E. University Ave.

Laramie, WY 82071

(307) 766-2230

Acceptability of Coursework

Courses taken to satisfy professional education requirements and major content requirements must be taken for a conventional grade (A-F) unless offered for S/U grading only.

Professional education courses taken at another institution must come from an accredited Educator Preparation Program (e.g. NCATE, CAEP, AAQEP) to be accepted for a degree and/or teacher certification program. Courses remain subject to review for applicability to UW requirements by the Registrar's Office and by the College of Education Student Success Center. Syllabi of completed courses may be requested.

The College of Education does not accept transfer credits for professional education or content area courses with equivalents at UW for courses with final grades of a C- or less.

The College of Education encourages students to take teaching methodology and student teaching coursework or credits from the University of Wyoming whenever possible.

Student Responsibility

College of Education students are responsible for knowing and meeting graduation requirements. Students are expected to maintain a 2.750 UW Total Institution grade point average to enter the advanced teacher education sequence to graduate. Prior to enrolling in professional education courses, students are expected to have met the specific program and course prerequisites as listed in this publication. Students are expected to make reasonable academic progress toward completion of a degree.

Undergraduate Programs

Bachelor of Science

Agricultural Education, B.S.

- Secondary Agricultural Education with Concurrent Major in Agricultural Business, B.S.
- Secondary Agricultural Education with Concurrent Major in Agricultural Communications, B.S.

- Secondary Agricultural Education with Concurrent Major in Animal and Veterinary Science, B.S.

Bachelor of Applied Science

Career and Technical Education

- Secondary Career & Technical Education with an Emphasis in Business, B.A.S
- Secondary Career & Technical Education, B.A.S.
- Secondary Career & Technical Education with Concurrent Major in Human Development & Family Science, B.A.S.

Bachelor of Arts

Elementary Education

- Elementary Education, B.A.

Elementary/Special Education

- Elementary Education/Special Education, B.A.

Secondary Education

- Secondary English Education with Concurrent Major in English, B.A.
- Secondary Mathematics Education with Concurrent Major in Mathematics, B.A.
- Secondary Modern Languages Education with Concurrent Major in French, B.A.
- Secondary Modern Languages Education with Concurrent Major in German, B.A.
- Secondary Modern Languages Education with Concurrent Major in Spanish, B.A.
- Secondary Science- Biological Science Education with Concurrent Major in Biology, B.A.
- Secondary Science- Chemistry Education with Concurrent Major in Chemistry, B.A.
- Secondary Science- Earth Science Education with Concurrent Major in Environmental Systems Science, B.A.
- Secondary Science- Earth Science Education with Concurrent Major in Geology, B.A.
- Secondary Science- Physics Education with Concurrent Major in Physics, B.A.
- Secondary Social Studies Education with Concurrent Major in History, B.A.
- Secondary Social Studies Education with Concurrent Major in Political Science, B.A.

Teaching Endorsements

A teaching endorsement is not a standalone teacher certification program. Endorsements are issued by the Wyoming Professional Teaching Standards Board (PTSB) to state-licensed Elementary (K-6) and Secondary (6-12) teachers qualified to teach in specific subject areas, in addition to their initial certification(s). By state statute, the University of Wyoming's College of Education is allowed to provide institutional recommendations for add-on endorsements in Biology, Chemistry, Earth Science, and Physics to those who have completed programs leading to licensure in secondary-level Science content areas.

Graduate Programs

Master's Programs

There are three master's programs in the College of Education and two of the three have additional specialization areas. They are designed to provide advanced study for educational professionals. Consult the School of Teacher Education for program requirements and expectations.

Doctoral Programs

Doctor of Education (Ed.D)

The College of Education Ed.D. program prepares students for scholarly inquiry and professional leadership in education. The program consists of (1) applied research, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for leadership roles in education, and (3) applied professional experiences tailored to individual needs and career goals. Each student works closely with an advisor and a supervisory faculty committee to select courses, topics of research, and professional opportunities.

Preparation in the above areas combine to:

- Convey deep scholarly knowledge of education and foster its application in practice;
- Promote a broad understanding of various methods of inquiry in education and foster its application in practice settings;
- Advocate practices that demonstrate a commitment to diversity in education;
- Foster ethical and professional research and practice in education;
- Promote excellence in applied professional practice.

The degree of Doctor of Education (Ed.D.) is offered to those who wish to pursue a program of study in preparation for professional service and leadership in education. The program is designed to meet the needs of those for whom intensive research is not a practical prerequisite to professional goals. Doctoral students are expected to participate not only in organized coursework but also in other activities that will ensure breadth of outlook and technical competence.

Concentrations in the Doctor of Education are:

- Education, Ed.D., Concentration in Curriculum and Instruction
- Education, Ed.D., Concentration in Mathematics Education

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

The following requirements apply to all projects:

- Research-based (literature review)
- Scholarly, academic writing using APA style
- Primary or secondary data
- Authored by individual or small groups of students
- Uploaded to **ProQuest** for dissertations of practice or other projects in a dissertation format, and uploaded to the **Mountain Scholar Digital Collections** for projects in a non-dissertation format

Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the guidance of a faculty member. Data can be obtained from primary or secondary sources.

Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to* **Mountain Scholar Digital Collections** *or dissertations of practice or other projects in a dissertation format to* **ProQuest** *is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Please note: After submitting the required steps for the Mountain Scholar Digital Collections you will receive a confirmation email. Please forward this email to your chair and the School of Teacher Education staff.

Doctor of Philosophy in Curriculum and Instruction (Ph.D.)

The College of Education Ph.D. program prepares students for careers of scholarly inquiry and teaching in higher education. The program consists of (1) continuous research or inquiry, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for future work in research and teaching, and (3) teaching and other related experiences tailored to individual needs and career goals. Each student works closely with an advisor and a supervisory faculty committee to select courses, topics of research and inquiry, and teaching experiences.

All coursework in the Ph.D. in Curriculum and Instruction program addresses the following goals:

To convey deep scholarly knowledge of education and related fields

To promote a broad understanding of various methods of inquiry in education and develop competency in several of those methods

To advocate practices that demonstrate a commitment to diversity in education

To foster ethical and professional research and practice in education

To promote excellence as a college teacher

Effective preparation for the Ph.D. stems from collaborative research and inquiry into topics of mutual interest by students and faculty scholars/researchers. A major portion of the program consists of the individual student and selected faculty members(s) jointly engaged in research and inquiry. Successful Ph.D. applicants tend to have high aptitude for research and inquiry and express interest in general topics which the faculty of the college are actively inquiring and researching.

Concentrations in the Ph.D. in Curriculum and Instruction are:

Curriculum Studies

Literacy Education

Mathematics Education

Science Education

Program Specific Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application at the time of the admission application process or communicate with the advisor and school director there in after.

The two schools of the College of Education provide support for masters and doctoral degree programs. Faculty and staff work to deliver these programs by providing campus-based courses, courses taught on-site at different locations in Wyoming, courses taught online, and courses taught in hybrid formats.

School of Counseling, Leadership, Advocacy, and Design

332 Education Building, (307) 766-2366
and
316 Education Building, (307) 766-5649
Web site: www.uwyo.edu/clad
School Director: Courtney McKim

The School of Graduate Studies in Education includes the following program areas: Counseling, Educational Leadership, Higher Education Administration, Learning, Design and Technology, Research, and Special Education.

Program Areas

Counseling

Counselor education curricula experiences concentrate on the integration of helping skills, theory and practice. The programs utilize a personalized, developmentally oriented focus and prepare professional counselors for entry into school and mental health settings.

The undergraduate counseling courses are designed to achieve the following objectives:

- enhance self-awareness
- facilitate effective relationship skills
- increase leadership knowledge and skills
- assist learners in maximizing their potential

Graduate Study

Counselor education offers a two-year (61- 65 semester hours) master's degree program for practice in schools, colleges, universities, and community agencies, as well as private practice. The Council for Accreditation of Counseling and Related Educational Programs (CACREP), the national accrediting body recognized by the Council for Higher Education Accreditation, has conferred accreditation to the following M.S. specializations in counseling: school counseling and mental health counseling. The Ph.D. program in Counselor Education and Supervision is also CACREP accredited. Some courses are offered for undergraduates interested in school counseling, group work, leadership, and student affairs work. Undergraduates interested in preparing for entry into graduate work in counseling are invited to consult with program faculty prior to graduation. Program information is available on the Web site.

Degrees Offered

M.S. in Counseling, Option: Community Mental Health Counseling
M.S. in Counseling, Option: School Counseling
Ph.D. in Counselor Education and Supervision

Program Specific Admission Requirements

For master's applicants:

- Summary of academic background
- Personal statement
- Three letters of recommendation
- Current professional resume
- Transcripts
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years

In order to be considered for admission to the master's program, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For doctoral applicants:

- Transcripts
- Three letters of recommendation
- Personal self-statement
- Current academic resume
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years

In order to be considered for admission to the doctoral program, applicants must meet the following minimum requirements:

- Master's degree in Counseling
- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

Program Specific Degree Requirements

Professional Master's Program

Minimum requirements:

- Same for all options
- 61 hours of graduate credit to include 40 hours of core courses and 21 hours of graduate coursework specific to chosen option
- Culminating internship activity guided by faculty advisor
- Students complete the CAPP program in lieu of a program of study

Master's Degree in Counseling

At the completion of the Master's degree in Counseling students will demonstrate the following learner outcomes:

1. Professional Competence & Academic Preparation for Licensed Professional Counselor (LPC): Students will demonstrate academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor.
3. Professional Identity: Students will develop a professional identity as a professional counselor including the areas of advocacy, leadership, social justice, and promoting caring communities.
4. Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals.

Doctor of Philosophy in Counselor Education and Supervision

Doctoral students are required to have completed a minimum of a 48-hour Master's degree from a program of study equivalent to a CACREP accredited Masters program in Counselor Education. These requirements are based upon the 2016 CACREP Standards.

Ph.D. in Counselor Education & Supervision

Doctoral students in Counselor Education & Supervision will demonstrate the following learner outcomes.

1. Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals and academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. Professional Licensure: Students will obtain professional licensure as a Licensed Professional Counselor (LPC) in the state of Wyoming and/or develop a plan to obtain licensure for the state in which they intend to relocate upon graduation.
3. Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor, supervisor and educator including the areas of advocacy, leadership, social justice, and promoting caring communities.
4. Research & Scholarship: Students will develop a professional identity as an academic researcher by demonstrating a clear and active research agenda that includes a plan of action for professional presentations and manuscripts.
5. Professional Development: Students will develop a clear and diligent plan to becoming a skilled, ethically competent counselor educator. -

Program Specific Graduate Assistantships

Assistantships are usually available for doctoral students. Master's students sometimes qualify for assistantships. Please contact the program at (307) 766-2366 for assistantship opportunities, and see school web site.

Educational Leadership

The curriculum in educational leadership is designed to prepare graduate students for positions as superintendents, principals, and other roles in both public and private organizations. Those in leadership perform duties of a specialized nature and this program provides sufficient breadth to give candidates for advanced degrees ample opportunity to develop essential competencies.

Degrees and Certificates Offered

Students who major in education with an option in educational leadership may choose one of the following certificate or degree programs: Principal Certificate program for eligibility of a K-12 Principal Certificate endorsement, School District Superintendent Certificate, Master of Arts in Education, Doctor of Education.

Program Specific Admission Requirements

For principal certificate applicants:

- Letter of intent
- Current resume
- Copy of current teaching certificate
- Transcripts
- Principal program application form
- Superintendent approval form
- Three letters of recommendation, with two of the letters from someone in a related supervisory role to the candidate.
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.
- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Master's degree in an education-related field from an accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Three years of K-12 teaching experience.

For master's applicants:

- Letter of intent
- Current resume
- Copy of current teaching certificate
- Transcripts
- Principal program application form
- Superintendent approval form
- Three letters of recommendation, with two of the letters from someone in a related supervisory role to the candidate
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.
- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Three years of K-12 teaching experience.

For superintendent certificate applicants:

- Application letter of intent that explains that candidate's interest and potential in pursuing an advanced degree in district level leadership.
- Current CV or academic resume
- Three letters of recommendation with two of the letters from someone in a related supervisory role to the candidate.
- Transcripts

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Master's degree for an accredited institution (30 credits of applicable coursework) with a minimum GPA of 3.000 or a 4.000 scale.
- Two years of K-12 educational leadership experience.

For EdD applicants:

- Application letter of intent that explains that candidate's interest and potential in pursuing an advanced degree in district level leadership.
- Current CV or academic resume
- Transcripts

- Three letters of recommendation with two of the letters from someone in a related supervisory role to the candidate

- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing preferred, although there is a possible pathway to the EdD if a candidate is initially admitted to the superintendent certificate program.

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

- Master's degree for an accredited institution (30 credits of applicable coursework) with a minimum GPA of 3.000 or a 4.000 scale.

- Two years of K-12 educational leadership experience.

Learner Outcomes

2018 NELP District Standards

1. NELP Standard 1: Mission, Vision, and Improvement: Collaboratively lead, design, and implement a district mission, vision, and process for continuous improvement that reflects a core set of values and priorities that include data use, technology, values, equity, diversity, digital citizenship, and community.

2. NELP District Standard 2: Ethics and Professional Norms: Advocate for ethical decisions and cultivate professional norms and culture

3. NELP District Standard 3: Equity, Inclusiveness, and Cultural Responsiveness: Develop and maintain a supportive, equitable, culturally responsive, and inclusive district culture.

4. NELP District Standard 4: Learning and Instruction: Evaluate, design, cultivate, and implement coherent systems of curriculum, instruction, supports, assessment, and instructional leadership.

5. NELP District Standard 5: Community and External Leadership: Understand and engage families, communities, and other constituents in the work of schools and the district and to advocate for district, student, and community needs.

6. NELP District Standard 6: Operations and Management: Develop, monitor, evaluate, and manage district systems for operations, resources, technology, and human capital management.

7. NELP District Standard 7: Policy Governance and Advocacy: Cultivate relationships, lead collaborative decision making and governance, and represent and advocate for district needs in broader policy conversations.

8. NELP District Standard 8: Internship: Successfully complete an internship under the supervision of knowledgeable, expert practitioners that engages candidates in multiple and diverse district settings and provides candidates with coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and skills identified in NELP Standards 1-7 in ways that approximate the full range of responsibilities required of district-level leaders and enable them to promote the current and future success and well-being of each student and adult in their district.

2018 NELP Building Standards

1. NELP Building-Level Standard 1: Mission, Vision, and Improvement: Collaboratively lead, design, and implement a school mission, vision, and process for continuous improvement that reflects a core set of values and priorities that include data, technology, equity, diversity, digital citizenship, and community.

2. NELP Building-Level Standard 2: Ethics and Professional Norms: Understand and demonstrate the capacity to advocate for ethical decisions and cultivate and enact professional norms.

3. NELP Building-Level Standard 3: Equity, Inclusiveness, and Cultural Responsiveness: Develop and maintain a supportive, equitable, culturally responsive, and inclusive school culture.

4. NELP Building-Level Standard 4: Learning and Instruction: Evaluate, develop, and implement coherent systems of curriculum, instruction, data systems, supports, and assessment.

5. NELP Building-Level Standard 5: Community and External Leadership: Engage families, community, and school personnel in order to strengthen student learning, support school improvement, and advocate for the needs of their school and community.

6. NELP Building-Level Standard 6: Operations and Management: Improve management, communication, technology, school-level governance, and operation systems; to develop and improve data-informed and equitable school resource plans; and to apply laws, policies, and regulations.

7. NELP Building-Level Standard 7: Building Professional Capacity: Build the school's professional capacity, engage staff in the development of a collaborative professional culture, and improve systems of staff supervision, evaluation, support, and professional learning.

8. NELP Building-Level Standard 8: Internship: Successfully complete an internship under the supervision of knowledgeable, expert practitioners that engages candidates in multiple and diverse school settings and provides candidates with coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and skills identified in NELP standards 1-7 in ways that approximate the full range of responsibilities required of building-level leaders and enable them to promote the current and future success and well-being of each student and adult in their school.

Educational Research

The educational research faculty offer eleven courses on a regular basis in educational research. These courses are open to graduate students throughout the college and the university. In addition, we offer two minors in educational research, one is qualitative research methods and one in quantitative research methods. Students currently enrolled in any UW master's or doctoral program are eligible for these minors. Both minors require students to complete 16 credit hours, and a co-teaching experience in educational research.

Learner Outcomes

The goals of the educational research courses in the College of Education include developing the necessary skills, concepts, and understanding of research methodology to evaluate, use, and conduct research in a student's specific discipline. This goal requires the ability to do the following:

1. In a research study, critique the following the research problem and hypothesis; general design to ensure that correct conclusions are possible from the statistical analysis; statistical analysis procedures to establish their valid use in the study; reliability and validity of instruments used to collect data; and conclusions and interpretations to insure appropriateness of each.

2. Develop a problem appropriate for research. Examine a cross section of the current literature on the topic, placing the research problem within the context of the field.

3. Demonstrate knowledge of the reference sources available in a research library; know how and when to use available resources.

4. Compare and contrast research designs and methods and be able to identify examples, advantages, and disadvantages of each.

5. Be able to use statistics to describe a sample and make inferences.

6. Understand, design, and analyze results of various types of quantitative, qualitative, and mixed method research studies.

7. Understand the principles of measurement as they apply to specific studies.

Learning, Design, and Technology

The curriculum in Learning, Design, and Technology is designed to assist professionals in effectively developing, implementing, and evaluating systems, tools, strategies, and environments that enhance learning. Graduates from the program secure employment in PK-12 classrooms; school media and technology centers, and school district administrative offices; public, corporate, and government centers and training agencies; college and university faculty and administrative positions; design and development labs; product support teams; and consulting firms.

Degrees and Certificates Offered

Students who major in education with a concentration in Learning, Design, and Technology may choose one of the following certificate or degree programs: Online Instruction Certificate program, Master of Science in Education (M.S.), or Doctor of Education (Ed.D.). The program Web site (http://www.uwyo.edu/clad/) provides additional information.

Program Specific Admission Requirements

For certificate applicants:

- Personal Statement
- Transcripts
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For Master's applicants:

- Personal Statement
- Transcripts
- Three letters of recommendation
- Current academic Vitae or resume

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For Doctor of Educationapplicants:

- Personal statement
- Transcripts
- Three letters of recommendation
- Current academic Vitae or resume
- Demonstration of ability to do graduate work. Submit on of the following:
    - GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing
    - Academic Portfolio
    - Published Writing
    - Other artifact (i.e. thesis, software, curriculum)
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

Learner Outcomes

Foundational Knowledge in Learning, Design, and Technology

- Describe complex concepts and relationships within the field of Learning, Design, and Technology through relevant principles, theories, and frameworks from multiple perspectives.
- Analyze diverse learner and instructional needs.
- Evaluate impact of pedagogies/andragogies on learning outcomes.
- Create learning experience designs by integrating and applying appropriate learning theories, design strategies, and learning technologies.
- Design and support rigorous, relevant, equitable and inclusive learning experiences and environments.

Leadership & Innovation

- Explore emerging technologies and their potential applications in learning.
- Analyze project management principles in relation to learning experience design case studies and technology integration plans.
- Develop Learning, Design, and Technology leadership and project management skills.
- Build professional capacity and agency needed to enable and sustain change.

Research

- Read and analyze research relevant to education and technology.
- Design and conduct rigorous research studies.

Creativity

- Explain the nature of design practices and 'designerly thinking' from conceptual and applied perspectives.
- Explore roles of technology in creativity research and practice.
- Apply creative practices in teaching, learning, and research.
- Acquire a creative mindset.
- Cultivate a strong aptitude for creative problem-solving.

Technology

- Integrate tools across disciplines and contexts.
- Analyze digital design system processes and strategies for potential applications in multimodal learning and instruction.
- Evaluate the quality, accessibility, and effectiveness of current and emergent technology.
- Develop digital pedagogies/andragogies.

Higher Education Administration

The Higher Education Administration program serves the formal academic leadership development needs of persons aspiring to become leaders in higher education institutions. Adult learning, rural access to continuing education, workforce training leadership approaches, change management, and institutional operations are just some of the issues you'll explore in UW's online higher education administration master's, doctoral, and certificate programs. We recognize that the pursuit of an online certificate or degree requires just as much student support as that of a traditional on-campus student. That's why we provide the same student services for those who are on-campus and those who are pursuing their degree online. Our HIED degree programs in higher education administration at the University of Wyoming balances theory with practice to give you the knowledge and skills you need to enter the field or advance at your current institution. Most importantly, you will gain an understanding of where you can make a difference as a leader in the vast field of post-secondary education. By the time you complete your program, you will be ready to level up your career and take your place as a skilled administrator in higher education, government or the nonprofit sector.

Degree and Certificates Offered

Education, M.A., Concentration in Higher Education Administration

Education, Ed.D., Concentration in Higher Education Administration

Community College Leadership Certificate

For certificate applicants:

- Application letter
- Transcripts
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's and Master's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For master's applicants:

- Transcripts
- Three letters of recommendation
- Personal statement
- Current academic resume
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for full admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale. Master's applicants under the minimum 3.000 GPA may in limited cases be eligible for probationary admission status. Please contact HIED faculty for more information.

For EdD applicants:

- Transcripts
- Three letters of recommendation
- Personal statement
- Current academic resume
- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Minimum of 3 years of full-time experience in higher education or a closely related field.
- Bachelor's and Master's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

Special Education

The graduate special education program is designed to prepare teachers to work with students with varied learning and behavior needs. Students in this program earn a Master of Arts in education with an emphasis in special education. Graduates are eligible for K-12 special education generalist licensure through the Wyoming Professional Teaching Standards Board.

Program Specific Admission Requirements

- Current resume including:
    - Educational experiences
    - Work experiences
    - Activities/honors
    - Other relevant information
- Transcripts
- Three letters of recommendation
- Professional Writing Sample including:
    - A description of your professional goals
    - An explanation of your commitment to Special Education
    - An explanation of your philosophy of education
    - An explanation of how this Special Education program fits your goal
- Copy of current Wyoming teaching certificate, evidence of certificate application, or evidence of district sponsorship.
- Signed Memo of Understanding
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least

two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

To be considered for admission, all applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.25 on 4.00 scale

Learner Outcomes

Upon completion of the Master of Arts program in Special Education, the candidates will demonstrate their knowledge and skills in:

1. Engaging in Professional Learning and Practice within Ethical Guidelines. Special education professionals practice within ethical and legal guidelines; engage in ongoing self-reflection to design and implement professional learning activities; and advocate for improved outcomes for individuals with exceptionalities and their families while considering their social, cultural, and linguistic diversity.

2. Understanding and Addressing Each Individual's Developmental and Learning Needs. Special education professionals use their understanding of human growth and development; multiple influences on development; individual differences; diversity, including exceptionalities; and families and communities to plan and implement inclusive learning environments and experiences that provide individuals with exceptionalities high-quality learning experiences reflective of each individual's strengths and needs.

3. Demonstrating Subject Matter Content and Specialized Curricular Knowledge. Special education professionals apply their understanding of the academic subject matter content of the general curriculum and specialized curricula to inform their programmatic and instructional decisions for learners with exceptionalities.

4. Using Assessment to Understand the Learner and the Learning Environment for Data-Based Decision Making. Special education professionals assess students' learning, behavior, and the classroom environment to evaluate and support classroom and school-based problem-solving systems of intervention and instruction. Special education professionals evaluate students to determine their strengths and needs, contribute to students' eligibility determination, communicate students' progress, inform short and long-term instructional planning, and make ongoing adjustments to instruction using technology as appropriate.

5. Using Effective Instruction to Support Learning. Special education professionals use knowledge of individuals' development, learning needs and assessment data to inform decisions about effective instruction. Special education professionals use explicit instructional strategies; employ strategies to promote active engagement and increased motivation to individualize instruction to support each individual. Special education professionals use whole group instruction, flexible grouping, small group instruction, and individual instruction. Special education professionals teach individuals to use meta-/cognitive strategies to support and self-regulate learning.

6. Supporting Social, Emotional, and Behavioral Growth. Special education professionals create and contribute to safe, respectful, and productive learning environments for individuals with exceptionalities through the use of effective routines and procedures and use a range of preventive and responsive practices to support social, emotional and educational well being. They follow ethical and legal guidelines and work collaboratively with families and other professionals to conduct behavioral assessments for intervention and program development.

7. Collaborating with Team Members. Special education professionals apply team processes and communication strategies to collaborate in a culturally responsive manner with families, paraprofessionals, and other professionals within the school, other educational settings, and the community to lead meetings, plan programs, and access services for individuals with exceptionalities and their families.

Science & Mathematics Teaching Center

The Science and Mathematics Teaching Center (SMTC) was established in 1970 and is committed to excellence in science, mathematics and technology education. As part of the Office of Graduate Education in Academic Affairs, the SMTC, in cooperation with the Wyoming Department of Education (WDE) and the Professional Teaching Standards Board (PTSB), serves as a resource and professional development center for the state. The SMTC offers transdisciplinary graduate degree programs with multiple degree concentrations, certification options, and endorsement options. All of the programs emphasize both strong content knowledge and instructional practices. The affiliate faculty for the SMTC is comprised of include faculty from the Colleges of Agriculture and Natural Resources, Arts and Science, Education, and Engineering and Applied Science, and the Haub School of Environment and Natural Sciences.

The SMTC provides extensive off-campus professional development that serves throughout Wyoming that serves teachers, students, administrators, school districts and communities. SMTC in-service and extension courses, workshops, institutes, and conferences are designed collaboratively to improve science and mathematics teaching in Wyoming.

College of Engineering and Physical Sciences

401 Engineering Education and Research Building

Cameron Wright, Carrell Family Dean of College of Engineering and Physical Sciences
Phone: (307)766-4253 FAX: (307)766-4444
Web site: ceas.uwyo.edu

The College of Engineering and Physical Sciences (CEPS) houses departments in the fields of Physical Science, Technology, Engineering, and Mathematics. Our college is dedicated to fostering a culture of innovation, critical thinking, and problem-solving skills, which are essential for success in today's fast-paced and rapidly changing world.

Our faculty members are experts in their respective fields, and they bring a wealth of knowledge and experience to the classroom. They are passionate about teaching and are committed to helping students achieve their full potential. In addition to traditional classroom instruction, our faculty members also engage students in research and experiential learning opportunities, which provide them with real-world experience and prepare them for the challenges of their future careers.

The CEPS offers a wide range of degree programs, from undergraduate to graduate level, that are designed to meet the needs of students with different backgrounds and career goals. We also offer a variety of support services, including tutoring, advising, and career services, to ensure that our students have the resources they need to succeed academically and professionally.

In the CEPS, we believe that learning should be an engaging and collaborative experience. We strive to create a welcoming and inclusive environment where students from diverse backgrounds can come together to learn, grow, and succeed. We are committed to preparing our students to become the next generation of leaders in their fields and to make meaningful contributions to their communities and the world at large.

Mission

The University of Wyoming's College of Engineering and Physical Sciences will provide excellent education, research, and service in chosen fields of engineering and physical sciences. The College emphasizes connectivity with society, life-long learning, and the essential problem-solving and collaborative skills needed to address the frontier challenges facing Wyoming, the nation and the world.

Accreditation

The following undergraduate programs are accredited by the Engineering Accreditation Commission of ABET: architectural engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, energy systems engineering, mechanical engineering, and petroleum engineering.

Options within different engineering programs are accredited as part of the primary major. That is, the electrical engineering-FM Long bioengineering option is accredited as an electrical engineering degree..

The Bachelor of Science in Computer Science is accredited by the Computer Accreditation Commission of ABET.

The Bachelor of Science in Construction Management is accredited by the American Council for Construction Education.

The Professional CACS Bachelor of Science in Chemistry is accredited by the American Chemistry Society-ACS Approval Program.

Programs of Study

Undergraduate Degrees

Bachelor of Arts

Chemistry

Mathematics

Physics

Statistics

Bachelor of Science

Astronomy and Astrophysics

Chemistry

Chemistry (ACS Approved)

Construction Management

Environmental Geology and Geohydrology

Geography

Geology

Mathematics

Physics

Statistics

Bachelor of Science in Architectural Engineering

Bachelor of Science in Chemical Engineering

Bachelor of Science in Civil Engineering

Bachelor of Science in Computer Engineering

Bachelor of Science in Computer Science

Bachelor of Science in Electrical Engineering

Bachelor of Science in Electrical Engineering (Francis M. Long Bioengineering Option)

Bachelor of Science in Energy Systems Engineering

Bachelor of Science in Mechanical Engineering

Bachelor of Science in Petroleum Engineering

Graduate Degrees

Master of Arts

Mathematics

Master of Science

Architectural Engineering

Atmospheric Science

Chemistry

Chemical Engineering

Civil Engineering

Computer Science

Geology

Geophysics

Electrical Engineering

Environmental Engineering

Mathematics

Mechanical Engineering

Petroleum Engineering

Physics

Statistics

Master of Arts in Teaching

Mathematics

Master of Science in Teaching

Mathematics

Physics

Doctor of Philosophy

Atmospheric Science

Chemistry

Chemical Engineering

Computer Science

Electrical Engineering

Geology

Geophysics

Mathematics

Mechanical Engineering

Petroleum Engineering

Physics

Candidates for the various master's degrees in engineering disciplines are required to do a full year's work in residence either under Plan A or Plan B.

Undergraduate Study

Students should understand that a strong background in mathematics is necessary to actively pursue engineering. Credit towards these degrees is not allowed for algebra and trigonometry.

Depending on the major, a minimum of 120 to 126 semester hours of credit is required for the bachelor's degree from the College of Engineering and Physical Sciences. All course work must be selected with prior approval. Detailed outlines of curricula are presented later under headings of the various departments of the college.

All engineering, computer science, and construction management degree candidates must meet the academic requirements of the university and must have a grade point average of 2.000 (C) or above in all engineering, computer science, and construction management courses attempted at this university.

Students may not take a course for S/U credit to satisfy any requirement for a degree from the College of Engineering and Physical Sciences, unless the course is offered for S/U credit only.

The College of Engineering and Physical Sciences adheres to prerequisite coursework being completed before moving forward to advanced coursework. If a student is found to be enrolled in a course without meeting the prerequisites, the student will be administratively dropped from the course.

All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Graduate Study

Master's and doctoral programs are listed below. Candidates for the various master's degrees in engineering are required to do a full year's study in residence either under Plan A or Plan B. Interdisciplinary programs of study and research leading to one of the below disciplinary degrees can be developed.

Only graduates with satisfactory GPAs in programs accredited by ABET are granted full admission to graduate study in engineering and computer science disciplines. In addition, graduates with satisfactory GPAs in undergraduate disciplines of meteorology, physics, mathematics, or related fields can be granted full admission to graduate studies in atmospheric science. Other engineering graduates can be admitted on a provisional basis.

Engineering Science

Program Director: David Mukai, Ph.D.
2076 Engineering Building,
(307) 766-6181
FAX: (307) 766-4444

Engineering Science offerings present the fundamental engineering concepts upon which most engineering analysis and design work is based. These core courses represent the majority of engineering offerings at the freshman and sophomore level.

Courses in engineering science have their roots in mathematics and physical science, extending knowledge toward creative application. Thus, engineering and computer science students must take their courses in calculus, chemistry, physics, and engineering science in a timely manner. Details are given in the published curriculum for each program. **A grade of C or better must be earned in all courses that are prerequisite to any required engineering science course.**

Department of Atmospheric Science

6034 Engineering Building, (307) 766-3245
FAX: (307)766-2635
Web site: www.atmos.uwyo.edu
Department Head: Jeffrey French

Professors:

BART GEERTS, Licenciaat Physical Geography Katholieke University, Belgium 1984; Engineer in Irrigation Sciences 1986; Ph.D. University of Washington 1992; Professor of Atmospheric Science 2011, 1999.

Associate Professor:

JEFFREY R. FRENCH, B.S. South Dakota School of Mines 1992; M.S. 1994; Ph.D. University of Wyoming 1998; Associate Professor of Atmospheric Science 2021, 2015.

SHANE MURPHY, B.S. University of Colorado 2000; Ph.D. California Institute of Technology 2009; Associate Professor of Atmospheric Science 2019, 2011.

Assistant Professors:

DANA CAULTON, B.S. Indiana University 2010; Ph.D. Purdue University 2014; Assistant Professor of Atmospheric Science 2018.

DANIEL T. MCCOY, B.S. New Mexico Institute of Mining and Technology, 2010; PhD. University of Washington 2016. Assistant Professor of Atmospheric Science 2020.

STEFAN RAHIMI, B.S. University of Oklahoma 2010; M.S. 2014; PhD. University of Wyoming 2019; Assistant Professor of Atmospheric Science 2023.

MASANORI SAITO, B.S. Tohoku University, Japan 2012; M.S. 2014; Ph.D. 2017; Assistant Professor of Atmospheric Science 2020.

Adjunct Professors:

Professors Emeritus:

Terry L. Deshler, Robert D. Kelly, John D. Marwitz, Derek C. Montague, Thomas R. Parish, Alfred R. Rodi, Jefferson R. Snider, Gabor Vali

Atmospheric Science is a rapidly evolving discipline aimed at better understanding the earth's atmosphere and sits at the nexus between meteorology, physics, chemistry, biology, engineering, mathematics and computer science. The entire development of atmospheric science demonstrates how progress can result from the application of knowledge developed in the basic sciences to a complex environmental system. Concurrently, atmospheric scientists develop many observational and analytical techniques unique to the study of the atmosphere. Over the past decades, atmospheric science developed vigorously, stimulated by the availability of the latest satellite, ground-based and aircraft observations, as well as the availability of large computers for numerical simulations of atmospheric processes. At the same time, the importance of the atmosphere as a crucial resource in the welfare and survival of humankind is being recognized, as knowledge about how the atmosphere behaves is obtained.

The Department of Atmospheric Science offers graduate programs leading to the M.S. and Ph.D. degrees.

In these graduate programs, great emphasis is placed on the active research involvement of students both during the academic year and during the summer months. The low student to faculty ratio in the department ensures an atmosphere of cooperation among students, faculty and staff. Student theses and dissertations form integral parts of the department's research productivity and usually lead to articles published in the refereed literature.

Research interests in the department center around cloud and precipitation physics, cloud and mesoscale atmospheric dynamics, boundary layer processes, tropospheric aerosols and atmospheric chemistry, climate change, instrumentation and air quality. These interests are reflected in the department's academic program, which has the breadth and depth necessary to give students a background for entering into many different types of employment upon graduation.

A number of unique research tools are available in the department. Prominent among these is the King Air research aircraft which carries extensive instrumentation and computer-directed data acquisition systems. A mobile lab for sampling near surface atmospheric gases and aerosols can be deployed across the United States. Excellent laboratory facilities are available in the department's spacious quarters. These laboratories focus on cloud physics, remote sensing, aerosol, and atmospheric chemistry. Well-equipped electronic and mechanical construction and design facilities are conducive for work in instrument development. A wide range of computer facilities are available, including access to the NCAR/Wyoming Supercomputer Center(NWSC). The Department of Atmospheric Science is the lead user of the Wyoming allocation of the NWSC.

A prerequisite for admission to the graduate program is a bachelor's degree in meteorology, engineering, physics, chemistry, mathematics or a similar relevant discipline. Graduate assistantships are available by application to the department and are awarded on the basis of past record and promise for achievement.

For material containing further details on curriculum and research programs, write to the graduate admissions coordinator or visit the web site at www.uwyo.edu/atsc/.

Graduate Study

The Department of Atmospheric Science offers degree programs leading to the master of science and doctor of philosophy degrees. The department has strong research programs in the following areas: cloud physics and dynamics; tropospheric aerosols and clouds; greenhouse gases; air pollution and wildfires; boundary layer processes; remote sensing; and airborne instrumentation. The department's observational facilities are: 1) the King Air research aircraft (UWKA); 2) the Air Quality Mobile Lab and the Wyoming Air Quality Monitoring Lab; 3) the Wyoming Cloud Radar (WCR) and Wyoming Cloud Lidar (WCL) for the study of cloud structure and composition; and 4) the Keck Aerosol Laboratory. The UWKA, WCR, and WCL are designated Lower Atmospheric Observing Facilities by the National Science Foundation (NSF). Please refer to the departmental homepage at www.atmos.uwyo.edu for programmatic updates, or contact the department directly.

Program Specific Admission Requirements

Admission based on the university minimum requirements. Admissions are competitive.

Program Specific Graduate Assistantships

Assistantships are offered for both the M.S. and Ph.D. tracks.

Department of Chemical and Biomedical Engineering

4055 Engineering Building, (307) 766-2500
Web site: www.uwyo.edu/chemical
Department Head: SAMAN ARYANA

Professors:

VLADIMIR ALVARADO, B.Sc. Universidad Central de Venezuela 1987; M.S. Institut Francais du Pétrole 2002; Ph.D. University of Minnesota 1996; Professor of Chemical Engineering 2017, 2006.

DAVID M. BAGLEY, B.S. Colorado School of Mines 1984; M.S. Cornell University 1989; Ph.D. 1993; Professor of Chemical Engineering 2011, 2005.

DAVID A. BELL, B.S. University of Washington 1976; M.S. Rice University 1979; Ph.D. Colorado State University 1992; Professor of Chemical Engineering 2019, 1993.

JOSEPH HOLLES, B.S. Iowa State University 1990; M.E. University of Virginia 1998; Ph.D. 2000; Associate Professor of Chemical Engineering 2010.

JOHN OAKEY, B.S. The Pennsylvania State University 1997; M.S. Colorado School of Mines 1999; Ph.D. 2003; Professor of Chemical Engineering 2019, 2010.

MICHAEL V. PISHKO, B.S. University of Missouri-Columbia 1986; M.S. 1987; Ph.D. University of Texas at Austin 1992; Professor of Chemical Engineering 2015.

PATRICK JOHNSON, B.S. Lehigh University 1992; M.S. University of Virginia 1994; Ph.D. Columbia University 2004; Associate Professor of Chemical Engineering 2012,2006.

Associate Professors:

SAMAN ARYANA, B.S. University of Texas at Arlington 2003; M.S. 2006; Ph.D. Stanford University 2012; Assistant Professor of Chemical Engineering 2013.

KATIE DONGMEI LI-OAKEY, B.S. Shandong University of Technology 1994; M.S. Tianjin University 1997; M.S. University of Colorado at Boulder 1999; Ph.D. 2003; Associate Professor of Chemical Engineering 2018, 2011.

Associate Professor of Practice:

JOHN TATARKO JR., B. ChE, cum laude: 2008 Cleveland State University. MS ChE: 2010 Cleveland State University. MS EE: 2013 University of Louisville. PhD ChE: 2015 University of Louisville.

Assistant Professors:

KAREN WAWROUSEK, B.S. The College of St. Rose 2001; Ph.D. California Institute of Technology 2009; Assistant Professor of Chemical Engineering 2014.

Adjunct Professors:

John Ackerman
Morris Argyle
Youqing Shen
John Schabron

Professors Emeriti:

Chang Yul Cha
H. Gordon Harris
Henry W. Haynes

Chemical Engineering is one of the most versatile of the engineering programs. It prepares students for employment in many diverse fields, such as production of pharmaceuticals, polymers and plastics, semiconductors, heavy industrial chemicals, synthetic fuels, petrochemicals and petroleum refining. Chemical engineers also work in biological engineering, environmental engineering, enhanced oil recovery, corrosion control, metallurgy and microelectronics. Undergraduate chemical engineering training has been found to be an excellent background for graduate work not only in engineering, but also in a number of other fields, including medicine, law, business, and the natural sciences.

The chemical engineering curriculum is based on a sound background in chemistry, mathematics, physics, and biology. The essentials of engineering are added to this foundation, including fluid dynamics and thermodynamics. In order to develop the individual's social consciousness and to broaden the student's educational background, an integrated program of study in the humanities and social sciences is included in the curriculum. Chemical engineering courses in

multicomponent thermodynamics, transport phenomena, kinetics, process control and process design are concentrated in the junior and senior years. This program provides training for engineers to enter production, research, product and process development, process design, technical sales and engineering management positions. Training in chemical engineering equips the graduate to solve many of the problems facing society today: human health, energy shortages, synthetic fuels production, water and air pollution, toxic chemical control, and food production. Furthermore, our program prepares students interested in a career in medicine or the life sciences and is suitable for pre-medical and pre-dental students.

The department offers an 18-credit-hour block of approved technical electives. Students select an emphasis in Biological Engineering, Environmental Engineering, Materials Science and Engineering, Chemical Process Industry, Petroleum Engineering, Graduate School Preparation, and Pre-Medicine. Students can also pursue a concurrent major in Chemistry, minors in Physics, Chemistry, Math, Computer Science, Molecular Biology and Business. See department for details.

Chemical Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduate Study

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering. The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering, the Department of Petroleum Engineering, and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

Program Specific Admission Requirements

Admission Process and Requirements

Standard Admission

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

1. A GPA of 3.000 (A = 4.000), or equivalent;
2. A GRE score (there is no minimum GRE score requirement)
3. For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree:

A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) or an IELTS score of 6.5.

Unofficial transcripts of all prior college-level coursework, test scores and recommendations from three references must be uploaded as parts of the application.

If admission is granted, then official transcripts, GRE and TOEFL scores are required.

Applications submitted by February 1 will be given priority consideration for the fall semester.

The application will not be processed until all the necessary documents have been uploaded.

Department of Chemistry

204 Physical Sciences Building,
(307) 766-4363
FAX: (307) 766-2807
Web site: www.uwyo.edu/chemistry
Department Head: Brian Leonard

Professors:

DAVID T. ANDERSON, B.S. George Washington University 1987; Ph.D. Dartmouth College 1993; Professor of Chemistry 2012, 2000.

FRANCO BASILE, B.S. University of Wisconsin-Eau Claire 1986; Ph.D. Purdue University 1992; Professor of Chemistry 2018, 2003.

DEBASHIS DUTTA, B. Tech Indian Institute of Technology 1998; Ph.D. University of Notre Dame 2003; Professor of Chemistry 2017, 2006.

JOHN O. HOBERG, B.A. Jamestown College 1984; Ph.D. Montana State University 1990; Professor of Chemistry 2020, 2004.

TERESA LEHMANN DELLA VOLPE, B.S. Universidad Central de Venezuela 1987; Ph.D. University of Minnesota 1997; Professor of Chemistry 2021, 2008.

BRIAN M. LEONARD, B.S. University of Nebraska at Kearney 2003; Ph.D. Texas A&M 2008; Professor of Chemistry 2022, 2016, 2010.

J**ING ZHOU,** B.S. Xiamen University 1997; Ph.D. University of South Carolina 2004; Professor of Chemistry 2021, 2007.

Associate Professors:

CALEB M. HILL, B.S. Jacksonville State University 2009; Ph.D. University of Alabama 2014; Assistant Professor of Chemistry 2016, Associate Professor of Chemistry 2022.

ELLIOTT HULLEY, B.S. Ursinus College 2005; Ph.D. Cornell University 2011; Associate Professor of Chemistry 2020, 2014.

Assistant Professors:

XUESONG LI, B.S. China University of Geosciences, Beijing 2008; Ph.D. University of Bordeaux 2016; Ph.D. University of Liege 2016; Assistant Professor of Chemistry 2023.

LAURA RITA DE SOUSA OLIVEIRA, B.S. New Mexico Institute of Mining and Technology 2010; Ph.D. University of California, Riverside 2017; Assistant Professor of Chemistry 2020.

Research Faculty:

NAVAMONEY ARULSAMY, B.Sc. Madurai-Kamaraj University, India 1982; M.Sc. 1986; Ph.D. University of Hyderabad, India 1991; Senior Research Scientist 2013, 2005.

ALEXANDER GORONCY, B.S. University of Bremen; Ph.D. University of South Carolina; Research Scientist 2015.

Adjunct Professors:

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Adjunct Professor of Chemistry 2001.

KRISTIN DI BONA, Ph.D. The University of Alabama 2014; Adjunct Professor of Chemistry 2022

MAOHONG FAN, Ph.D. Osaka University 2003; Professor in SER and CEAS; Adjunct Professor of Chemistry 2009.

ROBIN D. ROGERS, Ph.D. University of Alabama 1982, University of Alabama, President/ Owner/ Founder, 525 Solutions, Inc. 2017, Professor Emeritus 2021, University of Alabama, Adjunct Professor of Chemistry 2022.

Associate Lecturer:

GINKA S. KUBELKA, M.S. University of Wuerzburg, Germany 2010; Ph.D. University of Wyoming 2015. Associate Lecturer of Chemistry 2022, 2016.

Assistant Lecturers:

INDRAJIT BANDY, BSc. University of Calcutta, India 2011; MSc. University of Calcutta, India 2013; Ph.D. Arizona State University, USA 2019; Assistant Lecturer of Chemistry 2023.

KUI CHEN, B.Sc. Xiamen University 1997; Ph.D. University of South Carolina 2004; Assistant Lecturer of Chemistry 2019.

Professors Emeritus:

Vernon Archer, Keith T. Carron, Robert Corcoran, Clyde Edmiston, Anthony Guzzo, Suzanne Harris, Robert Hurtubise, David Jaeger, E.G. Meyer, Bruce A. Parkinson, Dean M. Roddick, Edward Clennan.

Senior Lecturer Emeritus:

Patricia A. Goodson

Chemistry is one of the fundamental physical sciences dealing with the structure and properties of matter, along with changes that matter undergoes. Chemistry's scope encompasses all substances, living and non-living. Its study and practice include (1) the theoretical and experimental aspects of chemical bonding and structure using computational, spectroscopic, and diffraction techniques; (2) the laboratory synthesis from simple starting materials of desirable compounds in the inorganic, organic and biological classes; and (3) the total analysis of complex mixtures using modern spectroscopic and electrochemical methods. Since we live in a material world, applications of chemical knowledge influence most areas of human endeavor: scientific, economic, political and social. Many of the advances in the areas of new materials, medicines, biotechnology, food production, new energy sources and semiconductor technology associated with the "computer revolution" are based on chemistry and chemical principles. Some understanding of these chemical principles should be part of every educated person's knowledge.

Because of the broad scope of this discipline, the Department of Chemistry offers a variety of courses and programs. These programs meet the needs of students planning professional careers in chemistry and those wishing to major in chemistry for other objectives. In particular, chemistry is a traditional pre-professional major for students interested in medicine and dentistry. Specific courses are offered to serve other major areas and as part of University Studies and A&S core requirements.

Students who have taken an AP examination and have received a score of 4 or 5 may receive credit for CHEM 1020 and CHEM 1030.

Undergraduate Minor

A minor is offered in the Department of Chemistry. Further information may be found at the web site www.uwyo.edu/chemistry.

Graduate Study

The Department of Chemistry offers programs leading to the degrees of master of science and doctor of philosophy chemistry. The master's degree is offered mainly under Plan A with Plan B reserved for special circumstances.

The department also participates in the preparation of students for the degrees of master of science in natural science and master of science in teaching (M.S.T.), which are designed to improve the competence of those engaged in science teaching.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Chemistry requires that a student have taken the following undergraduate courses: one year of general chemistry; one semester/quarter of quantitative analysis; one year of organic chemistry plus laboratory; one year of physical chemistry plus laboratory; one year of physics; and mathematics through multivariable calculus. As appropriate, one or more of these course requirements may be waived at the discretion of the department.

The University of Wyoming Chemistry Department is accredited by the American Chemical Society (ACS).

Department of Civil and Architectural Engineering and Construction Management

3074 Engineering Building, (307) 766-2390
FAX: (307) 766-2221
Web site: www.uwyo.edu/civil/
Department Head: Anthony S. Denzer

Professors:

MICHAEL G. BARKER, B.S. Purdue University 1983; M.S. 1987; Ph.D. University of Minnesota 1990; Professor of Civil Engineering 2003.

JONATHAN A. BRANT, B.S. Virginia Military Institute 1998; M.S. University of Nevada 2000; Ph.D. 2003; Professor of Civil Engineering 2020, 2008.

ANTHONY S. DENZER, B.A. University of California, Berkeley 1991; M.Arch. University of Kansas 1998; Ph.D. University of California, Los Angeles 2005; Professor of Architectural Engineering, 2021, 2005.

FRANCOIS JACOBS, B.S. California Baptist University 1995; M.B.A. University of Denver 2005; Ph.D. Colorado State University 2010; Associate Professor of Construction Management, 2019.

KHALED KSAIBATI, B.S. Wayne State University 1984; M.S. Purdue University 1986; Ph.D. Purdue University 1990; Professor of Civil Engineering 2001; Director of the Wyoming Technology Transfer Center 2003, 1990.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

JENNIFER E. TANNER, B.A. Eastern College 1994; B.S. Oklahoma State University 1995; M.S. University of Costa Rica 1998; Ph.D. University of Texas 2003; Associate Professor of Civil Engineering 2009, 2003.

MICHAEL A. URYNOWICZ, B.S. Michigan State University 1990; M.S. University of Wisconsin 1995; M.S. Colorado School of Mines 1998; Ph.D. 2000; Professor of Civil Engineering 2014, 2002.

HAIBO ZHAI, B.S. Xi'an University of Technology 1999; M.S.Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

JIANTING "JULIAN" ZHU, B.S. Zhejiang University 1983; M.S. Peking University 1985; Ph.D. Dalhousie University 1996; Professor of Civil Engineering 2019, 2013.

Associate Professors:

DAVID J. MUKAI, B.S. University of Hawaii 1983; M.S. 1985; Ph.D. University of Washington 1991; Associate Professor of Civil Engineering 2005, 2001.

NORIAKI OHARA, B.A. Chuo University 1997; M.A. 1999; Ph.D. University of California, Davis 2003; Associate Professor of Civil Engineering 2019, 2012.

LIPING WANG, B.S. Xi'an University of Architecture and Technology 2010; M.S. 2003; Ph.D. National University of Singapore 2007; Associate Professor of Architectural Engineering, 2020, 2013.

CHENGYI "CHARLIE" ZHANG, B.S. Harbin University of Commerce 2007; M.S. China University of Mining and Technology, Beijing 2009; Ph.D. Illinois Institute of Technology 2013; Assistant Professor of Construction Management, 2020.

MILAN ZLATKOVIC, B.S. University of Belgrade 2005; M.S. University of Utah 2009; Ph.D. 2015; Assistant Professor of Civil Engineering, 2016.

Assistant Professors:

AHMED ABDELATY AHMED, B.S. Cairo University 2001; M.S. 2014; Ph.D. Iowa State University, 2017; Assistant Professor of Construction Management, 2020.

AYSEGUL DEMIR, B.S. Dokuz Eylul University 2013; M.S. Istanbul Technical University 2016; Ph.D The University of Texas at Austin 2022.

SONG, YU, B.Eng., Traffic & Transportation, Beijing Jiaotong University 2010; M.Sc., Transport & Planning, Cardiff University 2012; M.S., Civil & Environmental Engineering, University of Utah 2016, Ph.D., Civil & Environmental Engineering, University of Wisconsin-Madison 2021.

RYAN WEBB W., B.S. University of New Mexico, Albuquerque, NM 2010; M.S. University of New Mexico, Albuquerque, NM 2012; Ph.D. Colorado State University, Fort Collins, CO 2016; Assistant Professor of Construction Management, 2021.

Assistant Instructional Professors:

SHAWN C. GRIFFITHS, B.S. Utah State University 2009; M.S. University of Arkansas 2011; Ph.D. University of Texas, Austin 2015; Assistant Professor of Civil Engineering 2015.

Academic Professionals:

DHAWAL JAIN, B.S. K.R.V.I.A Mumbai India 2014; M.S. Virginia Tech 2018.

SHELLEY MACY, B.S. University of Wyoming 2002; M.S. University of Wyoming, 2013; Assistant Lecturer, 2021.

Adjunct Faculty:

Song Jin, Jeffrey Keely, Mark Kilgore, Robert Loane, Alan Moore, Evan O'Toole, Chris Schabron, Dennis Mouland, Nathan Bergh. Lindsay Schumaker.

Professors Emeriti:

Patricia J.S. Colberg, Charles W. Dolan, Thomas V. Edgar, K. James Fornstrom, Victor R. Hasfurther, Michael Humenick, Anton Munari, Larry O. Pochop, Jay Puckett, Richard J. Schmidt, James L. Smith, John P. Turner.

Civil Engineering

The mission of the department of Civil and Architectural Engineering and Construction Management at the University of Wyoming is:

- To educate and prepare Civil & Architectural Engineering and Construction Management students to lead as designers, builders, project managers and entrepreneurs as it relates to the sustainable built and natural environments.
- To develop technical solutions through research, innovation, and improved infrastructure to diversify and grow the economies that serve Wyoming and the world.

The Civil Engineering curriculum begins with a basic education in the physical, engineering, mathematical and computer sciences. This foundation supports further development of engineering topics that prepare the engineer to address critical societal needs. To meet these needs, the Civil Engineer designs and builds bridges, buildings, dams and hydraulic structures, pipelines and canals, power plants, transportation facilities, sanitary and environmental engineering facilities, surveying and mapping systems, space and ocean platforms, as well as numerous other engineering systems. The civil engineer must also be aware of the social, humanistic, and political aspects of their projects. Therefore, course work in the humanities and social sciences is required to better understand the social aspects of public works. During the last two years of their program, students may pursue several areas of Civil Engineering or, depending upon their interests, more specialized courses in one or more of the specific technical areas listed below. All students must have a comprehensive design experience.

Structural engineering: Analysis and design of structural systems including buildings, bridges, towers and other structures. Structural engineering also includes the study of solid mechanics and advanced structural materials.

Environmental engineering: Analysis, design and development of engineering systems to provide potable water supplies, treat municipal, industrial and hazardous wastes and protect human health and the environment.

Water resource engineering: Planning, analysis and design of hydraulic and hydrologic systems with respect to watersheds, municipalities, irrigation and drainage, and flood control. Conservation and management of groundwater and surface water are emphasized.

Transportation engineering: Planning, analysis and design of highways, traffic engineering and control, traffic safety, and pavement maintenance, design and rehabilitation.

Geotechnical engineering: Design and analysis of foundations, dams, embankments, slope stability and construction practices in soil and rock.

The Civil Engineering curriculum prepares the graduate to engage in professional practice, and upon completion of post-graduate requirements, to obtain registration as a Professional Engineer. It also provides the graduate with an excellent preparation for graduate studies in engineering, business or law.

Civil Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours. Students may have a maximum of 6 credits in courses with a grade of D in upper division CE courses that apply towards their degree program.

Computer Requirement

Many courses in Civil Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software program (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

CE Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

CE-OB1. Be able to successfully practice the profession of Civil Engineering.
CE-OB2. Be prepared and motivated to accept challenging assignments and responsibilities.
CE-OB3. Demonstrate successful professional growth through leadership development and career progression.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills.

Specifically, every University of Wyoming Civil Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Transfer Coursework: The Civil Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I
  OR
- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information.

Graduate Study

Graduate Programs

An advanced degree in civil and architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and doctor of philosophy. Areas of study in the M.S. and Ph.D. programs include: environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources engineering. The department also offers a master of science in architectural engineering and a master of science in environmental engineering in cooperation with the Department of Chemical and Petroleum Engineering. Additional information is available from the department or from the Web page.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree with at least a 3.000 GPA from an accredited engineering curriculum and a GRE combined minimum score of 298.

Ph.D. applicants are reviewed with regard to stated interests, objectives and the ability of the department to provide a quality experience for the applicant.

International students must achieve a TOEFL score of 550 on the paper-based, a minimum of 76 on the internet-based or a minimum of 6.0 on the IELTS.

Architectural Engineering

Architectural Engineering is a rapidly expanding profession that deals with the myriad aspects of buildings and their design, construction and operation. Architectural Engineers are typically specialists, responsible for the design and integration of such building elements as the structural, plumbing, fire protection, heating and air conditioning, or lighting and electrical systems. The curriculum in architectural engineering is designed to acquaint students with the various aspects of building design and construction and exposes them to a variety of courses dealing with different building materials and systems. The curriculum also includes course work in the humanities and social sciences, both to

enrich the student's academic experience and assist in dealing with and contributing to society. The program leads to a Bachelor of Science in Architectural Engineering, preparing graduates to engage in practice as Professional Engineers upon completion of post-graduate registration requirements. Graduate work with emphasis in Architectural Engineering leading to a Master of Science and Doctor of Philosophy degree is offered through the Civil and Mechanical Engineering Programs. Additionally, advanced study can also be pursued in allied areas such as architecture, business or other engineering fields.

Students choose an area of emphasis in either structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists.

Architectural Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours.

Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree program.

Computer Requirement

Many courses in Architectural Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software programs (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

Architectural Engineering Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

ARE-OB1 Be able to successfully practice the profession of Architectural Engineering.
ARE-OB2 Be prepared and motivated to accept challenging assignments and responsibilities.
ARE-OB3 Demonstrate successful professional growth through leadership development and career progression.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Transfer Coursework: The Architectural Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute

"core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I
  OR
- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information

Graduate Study

Graduate Programs

An advanced degree in architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and Areas of study in the M.S. programs include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, and building energy modeling. Additional information is available from the department or from the Web page.

Students choose an area of emphasis in either, building, structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists. Students are required to have a lap top computer.

Architectural engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in civil and architectural engineering courses attempted at this university.

Construction Management

Construction Management is a rapidly-growing discipline, that is focused on the planning and oversight required to deliver construction projects on-time and on-budget. Students learn skills such as project management, decision making, budgeting, scheduling, and site logistics including safety planning, surveying, and building information modeling.

The Construction Management curriculum is designed to prepare students for success in a wide variety of career paths available in the construction sector. The curriculum includes course work in construction, business, humanities and social sciences to enrich the student's academic experience and to assist them in making a positive contribution to society. The program leads to a four-year Bachelor of Science in Construction Management degree.

Construction Management degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 in courses required for the major.

A grade of C or better is required in all required courses with a CM prefix.

Construction Management Learning Objectives

Upon graduation students shall be able to:

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used to construct projects.
9. Apply electronic-based technology to manage the construction process.
10. Apply basic surveying techniques for construction layout and control.
11. Understand construction management skills as a member of a multi-disciplinary team.
12. Understand different methods for project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping system.

The University of Wyoming Construction Management program is accredited by the American Council for Construction Education (ACCE).

Environmental Engineering

3074/4055 Engineering Building,
766-5255/766-2500
E-mail: cae.info@uwyo.edu
Web site: www.uwyo.edu/chemical/graduate/prospective/environmental/index.html

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering. This interdisciplinary degree offers students an engineering perspective for solutions to environmental problems. Emphasis is on minimization, monitoring, control, and processing of waste products as well as treatment and disposal associated with point and non-point pollution sources. Integration of engineering with science, regulatory, and policy aspects of environmental engineering is an important component of this unique program. Further information is available from the environmental engineering graduate studies program office and/or departments involved.

Program Specific Admission Requirements

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

1. A GPA of 3.000 (A=4.000), or equivalent;
2. A GRE score of 291 (combined verbal and quantitative sections);
3. For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree: A TOEFL score of 76 (Internet based) or an IELTS score of 6.0.

Complete official transcripts of all prior college-level coursework and recommendations from three references must be submitted as parts of the application.

The deadline to submit application credentials is February 1 (to be considered for fall semester), and October 1 (to be considered for spring semester).

The application will not be processed until all the necessary documents have been submitted.

Department of Electrical Engineering and Computer Science

5068 Engineering Building, (307) 766-2279
Web site: www.uwyo.edu/eecs

Professors:

STEVEN F. BARRETT, B.S. University of Nebraska 1979; M.E. University of Idaho 1986; Ph.D. University of Texas 1993; Professor of EECS 2011, 1999.

RUBEN GAMBOA, B.S. Angelo State University 1984; M.C.S. Texas A&M University 1986; Ph.D. The University of Texas 1999; Professor of EECS 2015, 2002.

JOHN M. HITCHCOCK, B.S. Iowa State University 1999; M.S. 2001; Ph.D. 2003; Professor of EECS 2015, 2003.

JOHN E. McINROY, B.S. University of Wyoming 1986; M.S. Rensselaer Polytechnic Institute 1988; Ph.D. 1991; Professor of EECS 2002, 1991.

SURESH S. MUKNAHALLIPATNA, B.E. University of Bangalore, India 1988; M.E. 1991; Ph.D. University of Wyoming 1995; Professor of EECS 2010, 1997.

CAMERON H.G. WRIGHT, B.S. Louisiana Tech University 1983; M.S. Purdue University 1988; Ph.D. University of Texas 1996; Professor of EECS 2016, 2003.

Associate Professors:

AMY BANIC, B.S. Duquesne University 2003; M.S. University of North Carolina 2005; Ph.D. 2008; Associate Professor of EECS 2012, 2010.

DONGLIANG DUAN, B.E. Huazhong University of Science and Technology 2006; M.S. University of Florida 2009; Ph.D. Colorado State University 2012; Associate Professor of EECS 2019, 2012.

LARS KOTTHOFF, Diplom (M.Sc.) University of Leipzig 2007; Ph.D. University of St. Andrews 2012; Associate Professor of EECS 2022, 2017.

EVA S. FERRE-PIKAL, B.S. University of Puerto Rico 1988; M.S. University of Michigan 1989; Ph.D. University of Colorado 1996; Associate Professor of EECS 2004, 1998.

JOHN F. O'BRIEN, B.S. California State Polytechnic University, Pomona 1991; M.S. University of Wyoming 1997; Ph.D. Rensselaer Polytechnic Institute 2001; Associate Professor of EECS 2009, 2003.

JON M. PIKAL, B.S. Purdue University 1988; M.S. University of Colorado 1993; Ph.D. Colorado State University 1999; Associate Professor of EECS 2005, 1999.

Assistant Professors:

CHAO JIANG, B.E. Chongqing University 2009; Ph.D. Stevens Institute of Technology 2019; Assistant Professor of EECS 2019.

DUONG NGUYEN, B.S. Hanoi University of Science and Technology 2006; M.S. Purdue University 2012; Ph.D. Michigan State University 2021. Assistant Professor of EECS 2022.

NGA NGUYEN, B.S. Hanoi University of Science and Technology 2005; M.S. 2007; Ph.D. Michigan State University 2017; Assistant Professor of EECS 2018. Assistant Professor of EECS 2022.

SHIVANAND SHESHAPPANAVAR,B.E. Visvesvaraya Tech. University; M.T. Visvesvaraya Tech; M.S. Syracuse University, Ph.D. U. Delaware 2023; Assistant Professor of EECS 2023.

DIKSHA SHUKLA, B.S. Kanpur University 2008; M.C.A. Jawaharlal Nehru University 2011; M.S. Louisiana Tech University 2014; Ph.D. Syracuse University 2019; Assistant Professor of EECS 2019. Assistant Professor of EECS 2022.

ZEJIAN ZHOU, B.S. 2016; Stevens Institute of Technology; Ph.D. Stevens Institute of Technology 2021. Assistant Professor of EECS 2022.

Senior Lecturers:

JAMES S. WARD, B.S. University of Wyoming 1993; M.S. 1997; Senior Lecturer of EECS 2011, 2000.

Assistant Lecturers:

LAURA OLER, B.S. Brigham Young U. , M.S. Massachusetts Institute of Technology , Assistant Lecturer of EECS 2023

DANIEL RADOSEVICH, B.S. University of Wyoming 2018; Assistant Lecturer of EECS 2022.

Adjunct Faculty:

Robin Hill, Elena Oggero, Guido Pagnacco

Professors Emeriti:

Thomas A. Bailey, Jr., Mark Balas, Henry R. Bauer III, James L. Caldwell, Christos T. Constantinides, John R. Cowles, Jerry J. Cupal, Clifford D. Ferris, Jerry Hamann, Raymond G. Jacquot, Robert F. Kubichek, Stanislaw Legowski, John Pierre, John Rowland, John W. Steadman, A.H.M. Sadrul Ula, David Whitman

Lecturers Emeritus:

Jeri R. Hanly

OVERVIEW

The Department of Electrical Engineering and Computer Science is home to three undergraduate ABET accredited programs (Computer Science, Computer Engineering and Electrical Engineering), and M.S. and Ph.D. programs in

Computer Science and Electrical Engineering. Below we describe each of these programs; first the undergraduate programs and then the graduate programs.

UNDERGRADUATE PROGRAMS

The three undergraduate programs are ABET accredited and lead to a B.S. in Computer Science, Computer Engineering or Electrical Engineering. The first years of the various programs overlap significantly to allow students with an interest in computing or electrical engineering to explore the areas before identifying a specialty.

COMPUTER SCIENCE

A Bachelor of Science degree (B.S.) in Computer Science prepares students for careers in any industry or to continue with graduate study in Computer Science and many other fields. Computer science students learn to approach problems from a computational (algorithmic) point of view, and this approach to problem solving often leads to better and more general solutions. Software systems, information technology, and large-scale data applications are core technologies in every area, and the applications continue to grow with software and information systems becoming more embedded in everyday life. These systems are essential tools in science and engineering, for business and finance, government, communications, medicine, and entertainment. Software systems make the world go round and smart devices, such as phones, tablets, glasses, wearable devices, medical implants are ubiquitous. As a result, computer science has grown from a specialized field to an independent, broadly based area that studies all aspects of the use and understanding of software systems, information, and computational processes. Students studying B.S. in Computer Science at the University of Wyoming have the option to focus their studies by taking a concentration in Cybersecurity. The Cybersecurity certificate captures core technical cyber security foundations and principles, from databases and networks to advanced threat detection and mitigation. This B.S. program is ABET accredited.

Program Objectives for Computer Science program

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Program Learning Outcomes for Computer Science program

The program of study in Computer Science enables students to achieve, by the time of graduation:

1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

ELECTRICAL ENGINEERING

This curriculum has been designed to provide the depth of understanding necessary to meet challenges of changing technology while being flexible enough to allow students to pursue in-depth study in at least one area of electrical engineering. To attain this, students must understand mathematics and the basic engineering sciences. The fundamental electrical engineering education consists of courses in circuits, networks, electromagnetics, electronics, digital systems, communications, controls, and energy conversion. Selection of elective courses, in consultation with the academic adviser, enables students to specialize in the above-mentioned areas, robotics, microcircuits, microprocessors and high frequency electronics.

Laboratory work associated with electrical engineering courses is an important part of the curricula. This work helps students gain experience in applying the theoretical knowledge they acquire to practical engineering problems.

Engineering design is a key component of the curriculum that concludes with significant design experience in the senior year. The program also includes the option listed below.

F.M. Long Bioengineering Option. Named in honor of UW Professor Francis M. Long, this area offers excellent opportunities for those interested in applying the techniques of the electronic engineer to problems of environmental science, biology, and medicine. Employment opportunities exist in state and federal agencies, industry, and medical institutions. Career placement includes such areas as environmental monitoring, design and development of biological and medical instrumentation and clinical engineering. With minor modifications, the curriculum shown may be used as preparation for entrance to medical or dental school.

COMPUTER ENGINEERING

Computer Engineering is a blend of Computer Science and Electrical Engineering. Computer Engineering students receive training that allows them to design complex computer systems and embed them in custom applications such as robots, spacecraft, automobiles, etc. A typical system may interface with a sensor to measure the world, then decide how to best use the information to achieve goals and eventually turn on actuators which perform the needed task. They also develop computer vision systems, high performance computers and software, and the Internet of Things. They take many of the same required courses as Electrical Engineers but fill in their electives with computer specific courses. Graduates can design electric circuits, understand network hardware, design computer systems, and write the software inside those systems. Compared to Electrical Engineers, Computer Engineers have less breadth of knowledge in Electrical Engineering but more depth in software and computer hardware. Compared to Computer Scientists, Computer Engineers know much more about hardware and signal/system theory. Computer Engineers sometimes also major in either Electrical Engineering or Computer Science to get two degrees.

Concurrent Major and Minor

The department offers a concurrent major and minor in both the electrical engineering and computer engineering programs. Consult the department office for a current detailed list of requirements.

Educational Objectives for Electrical and Computer Engineering Programs

Graduates of the University of Wyoming Electrical and Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Student Outcomes Electrical and Computer Engineering Programs

All Electrical (Computer) Engineering graduates shall demonstrate:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Grade Policy

Electrical and computer engineering majors must achieve a grade of C (2.000) or better on courses that are prerequisites for courses within the student's course of study. Students must also achieve a grade of C (2.000) or better in all required mathematics courses.

Graduate Study - Computer Science

The Department offers graduate work leading to the Master of Science degree in computer science and the Doctor of Philosophy in computer science. The Department also offers a graduate minor in computer science.

Program Specific Admission Requirement

Applicants for a graduate degree in computer science are expected to have completed undergraduate courses in Algorithms and Data Structures (COSC 3020 equivalent), Theory of Computing (COSC 4100 or COSC 4200 equivalent), Operating Systems (COSC 4740 equivalent), and Programming languages or Compilers (COSC 4780 or COSC 4785 equivalent). Applicants to the doctoral program must have completed a bachelor's or master's degree in computer science or a closely related discipline at an accredited university or college.

The Graduate Record Examination (GRE) is encourage for all applicants. Our strongest students tend to have scores above these minimums, with quantitative scores often around the 90th percentile or higher.

Students whose native language is not English must also complete the Test of English as a Foreign Language (TOEFL) with a score of at least 550 on the paper based TOEFL; 213 on the computerized test including a 58 or better in section 1-Reading; 80 for the Internet based TOEFL (iBT) including a score of 23 or better in section 1-Reading or the International English Language Testing System (IELTS) test with a 6.5 score or better. Students may also use the Duolingo exam, with a minimum of 105 overall and 125 in the Literacy section.

You must submit to the online application system contact information for three references that can evaluate your potential for graduate study in computer science. If you wish to pursue a Ph.D., the letters should address your ability to pursue quality original research. Letters should also evaluate your oral and written communication skills.

If you meet the minimum criteria and would like to formally apply for admission you will also need to submit the following information during the completion of your application via the application portal:

Copies of transcripts from all colleges and universities (minimum GPA or equivalent 3.00 on a scale of 4.00) for all degrees attained. International applicants must submit copies of individual semester transcripts, consolidated transcripts will not be accepted.

Copy of GRE scores a minimum percentile of 40% on verbal and 65% on quantitative portions of the exam. The majority of admitted students tend to have scores above these minimums.

Contact information for three recommendation letters (applicants should follow up with recommenders to ensure this requirement is fulfilled; applications will not be processed further until all recommendations have been received).

International students will also need to submit a copy of TOEFL scores, IELTS scores, or Duolingo scores.

High performing undergraduates in computer science can elect for Quick Start admission to the graduate program, allowing the sharing of up to six credit hours of 5000-level coursework toward the completion of both the B.S. and the graduate degree programs.

Graduate Program in Electrical Engineering

The department offers programs of study leading to the Master of Science and Doctor of Philosophy degrees in electrical engineering. Study programs are individually planned to students' interests in both course work and research. The areas of major concentration at the graduate level are:

Bioengineering

Computer Vision

Controls

Electrical Energy Systems Electronic Systems and Devices Robotics

Machine Learning

Robotics

Signal Processing and Computer Networks

The department also offers a combined B.S./M.S. program for exceptional students wishing to obtain both degrees in a shorter period.

Program Specific Admission Requirements

A complete application must include:

Statement of purpose
Official transcripts from all post-secondary institutions attended
TOEFL total of 79 iBT or IELTS total 6.5.

Additionally, all international students who are state-funded teaching assistantships or any international student with teaching responsibilities are required to complete an Oral Proficiency Interview (OPI). Students will need to follow the recommendations to improve their English skills. Students on state-funding who fail to follow the recommendations or do not meet the minimum proficiency by the end of their first semester will not be able to receive any state-funding until they have demonstrated proficiency.

Department of Geology and Geophysics

Geography Program

122 Geology Building, (307) 766-3386
Web site: www.uwyo.edu/geography
Program Director: Mark T. Clementz

Professor Emeritus:

John L. Allen, William L. Baker, Ronald E. Beiswenger, Thomas Buchanan, Deborah D. Paulson, Gerald Webster

Faculty and Staff Affiliates:

Professors

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.
THOMAS A. MINCKLEY, B.S. Northern Arizona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.
JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.
BRYAN N. SHUMAN, B.A. Colorado College1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

Associate Professors

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.
NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Associate Professor of Geography and International Studies 2021, 2016.
ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Associate Professor of Geography and International Studies 2021, 2016.

The Geography Program is comprised of faculty from across the University of Wyoming campus with interests and expertise in geography and resource management. The program is transdisciplinary with a focus upon the following:

1.The origin and nature of the physical and cultural environment, how the physical environment and its natural resources form, and how the environment and natural resources affect the quality of life.
2.The ways in which people and institutions affect natural resources and the environment.
3.The ways in which human institutions (e.g. political, economic, social) interact to produce diverse human landscapes.

Learning

The Geography Program has identified four fundamental goals of geography to emphasize in its undergraduate curriculum. These four goals are at the intersection of topically important areas in the discipline of geography. We

continue to evaluate student learning in our program to insure our curriculum addresses these fundamental goals as effectively as possible.

Goal 1 - Human-Environment Interaction
Students will be able to identify and explain how humans modify the environment and affect Earth's biophysical systems through their human activities.

Goal 2 - Biophysical Systems
Students will be able to identify and explain an array of patterns, processes, and interactions in Earth's biophysical systems occurring at different spatial scales.

Goal 3 - Human-Cultural Systems
Students will be able to identify and explain an array of patterns, processes, and interactions across Earth's human landscapes at different spatial scales.

Goal 4 - Geographic Thought, Methods and Analysis
Students will understand basic geographic concepts and ideas, and will be capable of using them to inform their work. Students will also demonstrate the ability to select and use appropriate tools and techniques for addressing geographic problems and conducting geographic analysis. They will also be able to use multiple methods to examine, represent, and visualize Earth and its geographic characteristics.

The program offers a concentration in the university's interdisciplinary program, Environment and Natural Resources. A description of the concentration requirements is available online at the ENR website.

Geology and Geophysics

122 Geology Building, (307) 766-3386
FAX: (307) 766-6679
Web site: www.uwyo.edu/geolgeophys
Department Head: Mark T. Clementz

Professors:

MICHAEL J. CHEADLE, B.A. Oxford University 1981; M.S. Cornell University 1984; Ph.D. Cambridge University 1989; Professor of Geophysics 2021, 2001.

MARK T. CLEMENTZ, B.S. University of Missouri, Columbia 1996; Ph.D. University of California, Santa Cruz 2002; Professor of Geology 2017, 2005.

ELLEN D. CURRANO, B.S. University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Geology 2022, 2014.

DARIO GRANA, B.S. University of Pavia 2003; M.S. 2005; M.S. University of Milano Bicocca 2006; M.S. Stanford University 2013; Ph.D. 2013; Professor of Geophysics and the School of Energy Resources 2022, 2013.

BARBARA E. JOHN, B.A. University of California-Berkeley 1978; Ph.D. University of California-Santa Barbara 1987; Professor of Geology 2002, 1992.

JOHN KASZUBA, B.S. Beloit College 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines 1997; Professor of Geology and the School of Energy Resources 2019, 2008.

SUBHASHIS MALLICK, B.S. Indian Institute of Technology 1976; M.S. 1978; Ph.D. University of Hawaii 1987; Professor of Geophysics and the School of Energy Resources 2008.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.

THOMAS A. MINCKLEY, B.S. Northern Ari-zona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.

CLIFFORD S. RIEBE, B.S.E. University of Michigan 1992; Ph.D. University of California-Berkeley 2000; Professor of Geology 2020, 2008.

JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.

BRYAN N SHUMAN, B.A. Colorado College 1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

KENNETH W. W. SIMS, B.A. Colorado College 1986; M.S. University of New Mexico 1989; Ph.D. University of California - Berkeley 1995; Professor of Geology 2014, 2009.

YE ZHANG, B.S. Nanjing University (PR China) 1998; M.S. University of Minnesota 2004; Ph.D. Indiana University 2005; Professor of Geology 2018, 2007.

Associate Professors:

PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; Associate Professor of Geophysics and the School of Energy Resources 2014, 2008.

KENNETH G. DUEKER, B.A. Whitman College 1984; Ph.D. University of Oregon 1994; Associate Professor of Geophysics 2006, 2000.

ANDREW PARSEKIAN, B.S. Dickinson College 2005; Ph.D. Rutgers University 2011; Associate Professor of Geophysics 2020, 2013.

Assistant Professors:

JOSEPH BIASI, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

MADELINE J. LEWIS, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

JAMIE MCFARLIN, B.A. Lawrence University, 2009; M.S. Northwestern University, 2016; Ph.D. Northwestern University, 2019; Assistant Professor of Geology 2022.

Research Scientists:

BRADLEY CARR, B.S University of Wisconsin-Madison 1987; Ph.D. University of Wyoming 1995; Associate Research Scientist Senior of Geophysics 2017, 2013.

KEVIN R. CHAMBERLAIN, B.A. Colgate University 1979; Ph.D. Washington University 1990; Research Professor of Geology 2004, 1990.

JANET C. DEWEY, B.S. Mississippi State University 1990; M.S. Auburn University 1993; Associate Research Scientist of Geology 2017, 2011.

LAURA VIETTI, B.S. University of Wyoming 2006; Ph.D. University of Minnesota 2014; Assistant Research Scientist of Geology 2015.

Lecturers:

ERIN E. KLAUK, B.S. Buffalo State University 2001; M.S. Montana State University 2007; Assistant Lecturer of Geology 2023

Adjunct Professors:

Sarah Aciego, Vladmir Alvarado, Tyler Brown, Erin Campbell, Barbara Carrapa, Jay Chapman, Carrick Eggleston, Eric Erslev, Peter H. Hennings, W. Steven Holbrook, Ranie Lynds, Beth McMillan,

Professors Emeriti:

James I. Drever, William E. Frerichs, B. Ronald Frost, Carol D. Frost, Robert R. Howell, Neil F. Humphrey, Jason A. Lillegraven, Ronald W. Marrs, Randi Martinsen, James E. McClurg, James D. Myers, Scott B. Smithson, Arthur W. Snoke, Ronald C. Surdam, Susan M. Swapp

Geology is the study of the origin, history and structure of the earth. Our undergraduate offerings encompass virtually every aspect of the science, with emphasis on current theory, methods, and applications. The philosophy of the department is to provide sound training in both theory and field observation, and to couple this background with a thorough education in modern laboratory, quantitative, and field techniques required for an understanding of geologic processes.

The setting of the university in the Rocky Mountains is ideal because some of North America's most outstanding geologic features are within a short drive of campus. The semiarid climate in Wyoming has resulted in excellent exposures of diverse rock types ranging in age from Precambrian to Recent. Deformation of the rocks in the region has been extensive, affording the student a field laboratory that exhibits a wide diversity of styles of faulting and folding. Mineral deposits, petroleum resources, and coal abound in the region.

Undergraduate Majors

The Bachelor of Science in geology is designed for those students who intend to become professional geologists and/or those who plan to attend graduate school in geosciences. The program includes courses normally expected of graduate school applicants, including a summer field camp and courses in related sciences and mathematics. This degree program prepares students for the examination for the professional geologist license.

The Bachelor of Arts in geology and Earth sciences is specifically designed for undergraduates who wish to study Earth sciences as a foundation for careers in a variety of areas, such as environmental law, natural resource business, land use planning, Earth science education, science journalism, and many governmental positions. The B.A. program includes a broad spectrum of courses, and focuses both on information about the Earth and on how society makes decisions that affect the Earth system.

The Bachelor of Science in Environmental Geology and Geohydrology is designed for those students who intend to become professionals in environmental fields such as consulting, site assessment, hazard assessment, and remediation. The degree will prepare students for graduate school in environmental disciplines and for entry-level jobs.

Majors in any of the degree programs above may also choose to declare an affiliated degree with the School of Environment and Natural Resources by completing degree requirements for both degrees. Students should consult the section on the School of Environment and Natural Resources.

The Department of Geology and Geophysics also participates in the Earth System Science interdisciplinary program by offering a concentration in geology for the B.S. degree in ESS. Students interested in this major should consult the section on Earth System Science for curriculum requirements.

Geology Program Objectives: Bachelor of Science

The primary mission of our B.S. geology program is to provide a quality educational experience that prepares men and women to enter careers in geology and related fields. We expect that our graduates should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science.
• Be able to apply basic scientific and technical knowledge to specific tasks and problems.
• Cultivate the specific scientific and technical skills that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity in the skills of independent learning, critical thinking, problem definition, and problem solving.
• Develop enhanced numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in their workplace and in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Science

The department of Geology and Geophysics has the following specific goals for its B.S. program:
• Students in the B.S. program will receive a quality preparatory education in the discipline that is current, relevant, practical, and personal.
• B.S. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.S. students who graduate with appropriate grades will be well prepared for entry-level positions as professionals within their and other related disciplines.

Geology Program Objectives: Bachelor of Arts

The primary mission of our B.A. geology program is to provide a broad educational experience that prepares men and women for careers in earth science-related fields. We expect that our graduate should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science-related fields.
• Be able to apply their knowledge to specific situations or problems.
• Cultivate the skills and ethics that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity for independent learning, critical thinking, and problem-solving.
• Develop basic numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.

• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in the work environment, both in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Arts

The department of Geology and Geophysics has the following specific goals for its B.A. program:
• Students in the B.A. program will receive a broad preparatory education in earth science and related fields that is current, relevant, practical, and personal.
• B.A. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.A. students who graduate with appropriate grades will be well prepared for entry-level positions in the geosciences and other related disciplines.

Required Academic Performance

In order to graduate with a Bachelor of Science or Bachelor of Arts degree in geology, the student must earn a letter grade of C (S where appropriate) or better in each course listed herein as part of the required course programs. This grade requirement applies to course work taken outside the department, as well as to transfer courses credited in lieu of resident requirements.

Undergraduate Minor

A minor in geology requires 18 hours of coursework in the Department of Geology and Geophysics. Students are required to take one GEOL 1000-level course; one GEOL 2000-level course; and fulfill remaining hours with GEOL 2000-level or higher courses in consultation with their adviser. A grade of C or better is required in each of these courses.

Graduate Study

The department offers instruction and research programs leading to master of science and doctor of philosophy degrees in both geology and geophysics and to the master of science in geology/water resources.

Program Specific Admission Requirements

All applicants must complete an online departmental application form with statement of intent. Forms are available from the Department of Geology and Geophysics Web site at www.uwyo.edu/geolgeophys.

Application deadline is January 15 of each year.

All applicants should have completed undergraduate coursework including mathematics through calculus, one year of chemistry, basic training in geology, and for most areas, one year of calculus-based physics.

Applicants to the geophysics graduate program should have an undergraduate degree in geophysics, geology, mathematics, physics, or engineering.

Applicants to the Ph.D. program, without a M.S. degree, must have attained an exceptional undergraduate record.

Formal approval of application by the departmental admissions committee.

Formal acceptance by an adviser.

Formal notice of admission by the university.

Program Specific Graduate Assistantships

All applicants to the geology and geophysics graduate program are considered for assistantships. Applicants are NOT required to complete the graduate assistant application form.

Program Specific Degree Requirements

Master of Science in Geology

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Master of Science in Geophysics

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of

this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Doctor of Philosophy in Geology (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Doctor of Philosophy in Geophysics (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Master of Science in Geology/Water Resources and Master of Science in Geophysics/Water Resources

Please refer to the Water Resources section of the *Catalog* for degree requirements.

Department of Mathematics and Statistics

Mathematics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats/
Department Head: Jason Williford

Professors:

GABRIELLE ALLEN, B.S. University of Nottingham 1988; M.S. University of Cambridge 1989; Ph.D. Cardiff University 1993; Professor of Mathematics 2020.

CRAIG C. DOUGLAS, B.A. University of Chicago 1977; M.S. Yale University 1978; M.Phil. 1981; Ph.D. 1982; SER Professor of Mathematics 2008.

VICTOR GINTING, B.S. Institut Teknologi Bandung Indonesia 1995; M.S. Texas A&M University 1998; Ph.D. 2004; Professor of Mathematics 2017, 2007.

STEFAN HEINZ, B.S. Humboldt University 1985; M.S. 1986; Ph.D. Heinrich-Hertz Institute 1990; Professor of Mathematics 2013, 2004.

LONG LEE, B.S. National Taiwan University, Taipei 1988; M.A. University of Maryland 1998; Ph.D. University of Washington 2002; Professor of Mathematics 2018, 2005.

RONGSONG LIU, B.A. Henan Normal University 1999; M.A. Fudan University 2002; Ph.D. York University 2006; Associate Professor of Mathematics and Program in Ecology 2015, 2009.

G. ERIC MOORHOUSE, B.S. University of Toronto 1980; M.S. 1984; Ph.D. 1987; Professor of Mathematics 2011, 1989.

ZHUANG NIU, B.S. Wuhan University 1998; M.S. 2001; Ph.D. University of Toronto 2005; Associate Professor of Mathematics 2021, 2012.

BRYAN L. SHADER, B.S. University of Wyoming 1984; M.S. University of Wisconsin-Madison 1987; Ph.D. 1990; Professor of Mathematics 2000, 1990.

JASON WILLIFORD, B.A. University of Pennsylvania 1998; Ph.D. University of Delaware 2004; Associate Professor Mathematics 2014, 2009.

Associate Professors:

MICHELLE T. CHAMBERLIN, B.S. Colorado State University 1997; M.S. 1999; Ph.D. Purdue University 2002; Associate Professor of Mathematics 2012, 2007.

FREDERICO da CUNHA FURTADO, B.S. Federal University of Minas Gerais 1979; M.S. Federal University of Rio de Janeiro 1984; Ph.D. Courant Institute 1989; Associate Professor of Mathematics 2002, 1997.

TYRRELL McALLISTER, B.S. University of California, Davis 2001; Ph.D. 2006; Associate Professor of Mathematics 2015, 2009.

DAN STANESCU, B.Eng. Polytechnic Institute, Romania 1986; M.Eng. McGill University, 1994; Ph.D. Concordia University 1999; Associate Professor of Mathematics 2008, 2003.

MAN-CHUNG YEUNG, B.S. Jinan University, China 1986; M.Ph. University of Hong Kong 1990; Ph.D. University of California-Los Angeles 1997; Associate Professor of Mathematics 2005, 2001.

Assistant Professor:

DANE TAYLOR, B.S. University of Wyoming 2008, Ph.D. University of Colorado Boulder 2013, SoC Assistant Professor of Mathematics 2023.

PING ZHONG, B.S. Huanzhong University 2005; M.S. Peking University 2008; Ph.D. Indiana University 2014; Assistant Professor of Mathematics 2018.

Senior Lecturers:

DAVID ANTON, B.S. North Dakota State University 2001; M.S. University of Wyoming 2007; Senior Lecturer in Mathematics 2017, 2005.

WILLIAM WEBER, B.S. Colorado State University 1979; B.S. University of Wyoming 1988; M.S. 1992; Senior Lecturer in Mathematics 2012, 2001.

Associate Lecturer:

NATHAN CLEMENTS, B.S. Brigham Young University-Idaho 2007; M.S. Idaho State University 2009; D.A. 2012; Associate Lecturer in Mathematics 2019, 2012.

Assistant Lecturer:

CHRISTINA G. KNOX, B.S. California State Polytechnic University, Pomona 2012; M.S. 2014; Ph.D. University of California, Riverside, 2019; Assistant Lecturer of Mathematics 2019.

JORGE FLORES-MATUTE, B.S. Chadron State College 2015; M.S. University of Wyoming 2018; Assistant Lecturer of Mathematics 2020.

CEDAR WISEMAN, B.S. University of Wyoming 2017; M.S. University of Wyoming 2020; Assistant Lecturer of Mathematics 2022.

Adjunct Professors:

Saman Aryana, Hakima Bessaih, Li Deng Douglas, George Elliot, Benedetta Ferrario, Maria Garrido-Atienda, John Hitchcock, Robert Kansky, David Meyer, Bjorn Schmalfuss, Gerald Schuster, Dongwoo Sheen

Professors Emeriti:

Charles Angevine, Leonard Asimow, Robert Buschman, Benito M. Chen-Carpentier, George C. Gastl, John H. George, Sylvia A. Hobart, Syed Husain, Peter Polyakov, A. Duane Porter, Ben G. Roth, John Rowland, Chanyoung Lee Shader, Raymond Smithson, John Spitler, Myron B. Allen III, Farhad Jarari.

> **"For the things of this world cannot be made known without a knowledge of mathematics.''--Roger Bacon**

Virtually every student at UW will take one or more math courses to fulfill graduation requirements. The intent is to illustrate the esthetics inherent in mathematics, and to provide students with the quantitative skills needed for today's careers.

Mathematics majors receive a broad and deep view of the mathematical sciences. They develop their mathematical thinking and communications skills in algebra, analysis, and applied math. They learn a variety of technological tools necessary for jobs in education, business, government, and industry. In addition to our math classes, the department offers a variety of opportunities to enrich the undergraduate experience. Students can participate in weekly seminars, summer research projects, Putnam Team competitions, and the math club.

Mathematics Placement

All UW math courses have prerequisites which are detailed in the course listings below. These are to assure that each student has the best possible opportunity for success in the course. In accordance with this, *all students registering for a math course will have their records checked in order to determine whether the prerequisite is satisfied.*

A computerized prerequisite check is run prior to the start of every semester. *Students who preregistered for a math course but have not satisfied the prerequisites at the time of the check will be automatically dropped from the course.*

Prerequisites for courses numbered 2200 or lower (except MATH 1105 and MATH 2120), and MATH2350 - Business Calculus, may be satisfied in one of four ways:

1. Obtain a grade of C or better in a prerequisite course. Note that noncredit courses from out-of-state colleges are not accepted as prerequisites.
2. Pass the Mathematics Placement Exam (MPE) at the stated level within one year of the start of the course.
3. Obtain a sufficiently high score on one of the following standardized exams within three years of the start of the course: ACT math score or SAT quantitative score.
4. Obtain a sufficiently high score on one of the following standardized exams: AP Calculus, CLEP, or IB.

Duplication of Courses (MATH 1400, MATH 1405, MATH 1450)

To avoid loss of credit because of duplication of course content, please note the following: (a) students with credit for both MATH 1400 and MATH 1405 will not receive new credit by taking MATH 1450; (b) students with credit for one of MATH 1400 or MATH 1405 will receive only 2 additional credits by taking MATH 1450; (c) students with credit for MATH 1450 will receive only 1 additional credit by taking both MATH 1400 and MATH 1405. Note that the GPA calculation for these situations is unusual, and students should ask the Registrar's Office for details.

Note that MATH 1450 counts as one attempt at each of MATH 1400 and MATH 1405 for the purposes of repeating classes.

Graduate Study

The Mathematics Program offers programs leading to the degrees of master of arts, master of science, master of arts in teaching, master of science in teaching, and the doctor of philosophy.

The requirements for these degrees reflect our belief that mathematicians should have a broad foundation in the core areas of algebra, analysis, and applied mathematics as well as the experience of a more intensive investigation of a specialized area. We provide this within a flexible structure that recognizes the individual interests and varied backgrounds of our students.

Program Specific Admission Requirements

To be competitive for admission, applicants must have strong backgrounds in mathematics. Generally, this means a bachelor's degree in mathematics or a closely related discipline. All applicants should have substantial coursework beyond the calculus sequence; courses in differential equations, linear algebra, and, in particular, courses in abstract algebra and analysis are highly recommended. A solid performance on the GRE Subject Test in Mathematics can demonstrate the applicant's mastery of these subjects. The GRE Subject Test in Mathematics is therefore recommended but is not required.

The GRE General Test is required, with a minimum Quantitative Reasoning score of 157 and Verbal score of 143. International applicants need a composite TOEFL score of 76 or an IELTS score of 6.5.

ETS only reports TOEFL scores taken within two years of the date of request.

Graduate Assistantships

The mathematics program employs approximately 22 graduate assistants each year. Assistantships include a full tuition and fee waiver, a monthly living stipend, and health insurance. Ph.D. students normally receive a higher stipend than master's students.

Teaching assistants teach or assist with the teaching of an undergraduate course each semester.

Students may also compete for research assistantships, provided that their interests align with an externally funded research project.

Summer support is not guaranteed but is usually available through teaching and research opportunities.

Statistics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats
Program Director: Tim Robinson

Professors:

TIMOTHY J. ROBINSON, B.S. James Madison University 1989; M.S. Virginia Tech 1994; Ph.D. 1997; Professor of Statistics 2012

SHAUN S. WULFF, B.S. Montana State University 1991; M.S. 1994; Ph.D. Oregon State University 1999; Professor of Statistics 2019, 1999.

Assistant Professors:

MARIE-AGNES S. TELLIER, B.S. Florida Institute of Technologies 2000; MS Florida Institute of Technology 2002; M.S. University of Wyoming 205; Ph.D. University of Wyoming 2018; Assistant Professor of Statistics 2023.

Assistant Lecturer:

MICHELE BIRD, B.A. University of Nevada, Las Vegas 1996; M.A. 2000; Assistant Lecturer of Statistics 2019.

JARED STUDYVIN, B.S University of Wyoming 2009; Ph.D. University of Wyoming 2015; Assistant Lecturer 2021.

Adjunct Professors:

Emeriti Faculty:

Stephen L. Bieber, Burke Grandjean, Richard Anderson-Sprecher, Kenneth Gerow

The curriculum in statistics includes a firm foundation in mathematics and computer science, in addition to course work in statistical theory and methodology. Graduating statistics majors at the University of Wyoming are expected to demonstrate the ability to identify and utilize appropriate statistical methods for finding data-driven solutions to a wide variety of real-life and scientific questions. In order to demonstrate these abilities, the graduating Statistics major must be trained in statistical theory, computational techniques and courses which emphasize the use of statistical methods in problem solving.

Statistical Theory

A strong background in statistical theory is crucial for a practicing statistician. It is the primary aspect that separates the consultant from the client. More specifically, it allows a statistician to generalize statistical procedures, formulate models (and associated assumptions), perform advanced statistical computation, and formalize interpretation of results. The statistical theory prerequisites are notably covered in the undergraduate courses STAT 4255 (Mathematical Theory of Probability), STAT 4265 (Introduction to the Theory of Statistics), and MATH 2250 (Elementary Linear Algebra).

Computation Techniques

The professional field of Statistics is highly computational. Associated computational skills involve coding, debugging, and programming beyond just class scripts provided to students in the undergraduate courses. The open-source R environment is primarily used in the graduate courses due to its popularity, availability, and capabilities (both statistical functions and programming). Thus, students are expected to have basic R program skills related to data management, statistical functions, and post-processing of output. These R based skills are covered in all of the upper division courses, particularly core courses such as 4015 (Regression Analysis), STAT 4025 (Design and Analysis of Experiments I), and 4045 (Categorical Data Analysis). The STAT 4015 and 4025 courses should be taken as soon as possible in the curriculum as these courses provide foundational content for nearly all of the upper division Statistics courses.

Interpretation of Results

An important aspect of applied statistics is to be able to interpret results of statistical analyses and express those interpretations clearly, accurately, and technically. Thus, these interpretations need to be in line with statistical theory (inference) and yet be clearly expressed to both statisticians and applied scientists. Thus, the undergraduate Statistics graduate is expected to be familiar with the statistical interpretation of results from the applied statistical courses, so that they can better understand the rationale underlying formal statistical interpretation and to develop the required skills to provide such interpretations independently.

University of Wyoming Statistics majors experience excellent job and/or graduate school placement. Our graduates have taken positions n industry, government, the sciences (social, biological, physical, and health), as well as engineering and education.

The statistics program also offers graduate programs leading to a graduate minor in statistics, and to a Master of Science (Plan B) in statistics.

Graduate Study

The Statistics Program offers graduate programs leading to a graduate minor in statistics, and to a master of science in applied statistics (Plan B). The minor is designed to enhance the M.S. or Ph.D. program of any student enrolled in one of the graduate programs at the University of Wyoming. All of these programs emphasize the understanding and application of a broad variety of statistical methods on real projects. Students will be provided with numerous opportunities to perform analyses and communicate findings. The MS Statistics program is specifically designed to prepare students to be effective statistical consultants and data scientists.

Program Specific Admission Requirements

The prerequisite for admission to graduate study is an undergraduate degree from an accredited institution, including work in mathematics through calculus III, Linear Algebra and at least one second-level class in statistical methods. Prospective students are encouraged to have had Math Analysis and upper level introduction to probability and mathematical statistics. Students who do not have prerequisites in mathematics and statistics may make up this deficiency at the beginning of their graduate program; however, such work does not count toward graduation requirements.

Department of Mechanical Engineering

2052 Engineering Building, (307) 766-2122
Web site: www.uwyo.edu/mechanical
E-mail: me.info@uwyo.edu
Department Head: Ray S. Fertig III

Professors:

RAY S. FERTIG III, B.S. University of Wyoming 2001; M.S. 2003; Ph.D. Cornell University 2010; Associate Professor of Mechanical Engineering 20232017, 2011.

JONATHAN W. NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineering 2012, 1997.

Associate Professors:

ERICA L. BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

MICHAEL STOELLINGER, M.S. Technical University Munich 2005; Ph.D. University of Wyoming 2010; Associate Professor of Mechanical Engineering 2018, 2012.

Assistant Professors:

XIANG ZHANG, B.S. Northeastern University (China) 2009; M.S. Beihang University (China) 2012; Ph.D. Vanderbilt University 2017; Assistant Professor of Mechanical Engineering 2019.

Instructional Professors:

LEVI J. KIRBY, B.S. Western Illinois University 2017; M.S. 2018; Ph.D. University of Iowa 2023; Assistant Instructional Professor of Mechanical Engineering 2023.

RAMSANKAR VEERAKUMAR, B.S University of Kerala (India) 2005; M.S. Birla Institute of Technology and Science (BITS Pilani) 2014. Ph.D. Iowa State University 2021. Assistant Instructional Professor of Mechanical Engineering 2021.

Lecturers:

KARI STRUBE, BS in Electrical Engineering (bioengineering option), University of Wyoming 2007. MS in Electrical Engineering, University of Wyoming, 2009. Assistant Lecturer, 2021

Professors Emeriti:

Dennis N. Coon, Paul A. Dellenback, Bruce R. Dewey, Andrew Hansen, Dimitri J. Mavriplis, Ovid A. Plumb, David E. Walrath

Mechanical Engineering B.S.

Mechanical Engineering is the broadest area of study in engineering. In contrast to other engineering disciplines, mechanical engineers are employed in significant percentages in almost all industrial and governmental organizations that employ engineers.

The spectrum of activities in which mechanical engineers are engaged continues to expand. The curriculum has in turn become flexible to allow for the education of mechanical engineering students in many diverse and allied areas, or for graduate school preparation.

The educational objectives of the of Mechanical Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The undergraduate program includes a foundation in mathematics, science, and engineering sciences. The three key elements of the mechanical engineering undergraduate program include core engineering principles, laboratory experience, and development of communication skills.

The mechanical engineering curriculum affords the student the flexibility to pursue specific professional goals within the discipline. Such an opportunity needs to be carefully considered by each student, so that elective courses are chosen with these goals in mind. During the junior and senior years, the student selects 15 credit hours of technical electives.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Mechanical Engineering, B.S.

Energy Systems Engineering B.S.

Energy Systems Engineering (ESE) is an ABET-accredited undergraduate degree offering in the Department of Mechanical Engineering. The ESE program was designed to train engineers to address one of this country's foremost challenges: to achieve energy independence and meet the growing demand for energy, while at the same time addressing critical environmental concerns. The program is intended to help meet these challenges by preparing students to be:

- technology leaders in energy conversion and environmental protection systems
- capable managers in the energy industry
- versatile overseers of energy development by the governmental sector
- technically-trained and environmentally-sensitive liaisons between the energy industry and the public.

ESE students will be trained in alternative and environmentally-friendly energy conversion systems, as well as more traditional technologies that will continue to play an important role for the foreseeable future.

Although the discipline of mechanical engineering has historically been responsible for the design of energy conversion cycles and equipment, issues outside the conventional realms of engineering are increasingly important to address as new and improved energy conversion systems are implemented. The engineer trained in Energy Systems will be better equipped than traditional mechanical engineers to deal with the environmental, legal, political, economic, and permitting aspects of new energy projects.

The educational objectives of the of Energy Systems Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Energy Systems Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The ESE degree has many coursework requirements in common with the Mechanical Engineering degree, particularly in the thermal, fluids, and energy conversion sciences. However, the ESE program emphasizes energy conversion aspects of Mechanical Engineering and requires coursework from UW's School of Environment and Natural Resources (ENR), course work in environmental law, and electives picked from a list of classes that focus attention on energy and the environment. The ENR courses expose students to issues related to permitting such as preparation of environmental impact studies, and related regulations such as the Endangered Species Act. In addition, technical electives allow students to choose more detailed study in personal areas of interest including, for example, courses in environmental engineering, wind engineering, solar engineering, and petroleum engineering.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Energy Systems Engineering, B.S.

Concurrent ME/ESE Degrees

In the event that a student desires concurrent majors in ME and ESE, University policy requires that ALL requirements for each program are met. The student must select which will be the primary major.

Graduate Study

The Department of Mechanical Engineering offers graduate study leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering. Faculty in Mechanical Engineering conduct research in the areas of aerodynamics, biomaterials, composite materials, computational material science, computational fluid dynamics, combustion, continuum mechanics, heat transfer, materials reliability, mechanical behavior of materials, nanomechanics of surfaces and interfaces, and wind energy.

Department Specific Graduate Admission Requirements

Applicants should possess a Bachelor of Science (B.S.) degree or equivalent in Mechanical Engineering with a minimum GPA of 3.000 on a 4.000 grade scale or equivalent. Students that do not hold B.S.M.E. degrees may qualify as M.S. candidates by completing, without credit, certain prerequisite courses as specified by the Department. These prerequisites would depend upon the candidate's background and upon the area in which he/ she plans to specialize.

A minimum composite score of 294 (MS) or 307 (PhD) on the Verbal and Quantitative sections of the GRE is required for admission to the Mechanical Engineering Department. For international students, a minimum TOEFL score of 90 on the Internet-based test (iBT) (or a minimum IELTS score >= 6.5 or a DuoLingo >= 110) is required. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the following minimum English Proficiency must be met: OPI >= Advanced Mid, TOEFL Speaking >= 23, IELTS Speaking >= 6.5, DuoLingo Conversation & Production (average) >= 110. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/study-iep-esl/grad-ta-support/index.html) if you have questions regarding the English proficiency requirements. Admittance to the graduate program is competitive, and the average applicant that is accepted with assistantship support will likely have well above the minimum qualifications.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): resume, copy of academic transcript, copy of GRE scores, copies of TOEFL (or IELTS or DuoLingo) scores for international non-native English speaking applicants, three letters of reference, and a Statement of Purpose indicating the applicant's technical area of interest, abilities, and objectives in completing a graduate degree in mechanical engineering. If you are applying for the BS/MS program, please choose "QuickStart - Mechanical Engineering BS/MS" as the program (no GRE score and Statement of Purpose are needed for the BS/MS application). Applicants to the joint MBA/MS-ME program should chose the MS degree program for the application. To be considered for Assistantships, applications must be submitted before March 15 for the Fall semester or October 15 for the Spring semester.

For Quickstart B.S./M.S. admissions requirement, see degree link below.

Department of Energy and Petroleum Engineering

4015 Engineering Building, (307) 766-4258
Web site: www.uwyo.edu/petroleum
Department Head: Dennis Coon, Ph.D., Interim

Professors:

HERTANTO ADIDHARMA, B.Sc. Institute of Technology, Surabaya 1987; Ph.D. Louisiana State University 1999; Professor of Chemical Engineering 2019.

MAOHONG FAN, B.S. Wuhan University of Science and Engineering 1984; M.S. Beijing University of Science and Tech. 1992; Ph.D. Chinese Academy of Sciences 1997; Ph.D. Iowa State University 2000; Ph.D. Osaka University 2003; Professor of Chemical Engineering 2014.

KHALED A.M. GASEM, B.Sc. University of California at Berkley 1976; M.Sc. Colorado School of Mines 1979; Ph.D. Oklahoma State University 1986; Professor of Chemical Engineering 2014.

LAMIA GOUAL, B.Sc. Ecole Nationale Polytechnique 1993; M.Sc. Imperial College, London 1998; Ph.D. 2003; Professor of Petroleum Engineering 2021.

MOHAMMAD PIRI, B.Sc. Azad University, Arak 1995; M.Sc. Azad University, Tehran 1998; M.Sc. Imperial College, London 2000; Ph.D. 2004; Professor of Petroleum Engineering 2018.

Associate Professors:

PEJMAN TAHMASEBI, B.S. Sahand University of Technology 2007; M.Sc. Amirkabir University 2009; Ph.D. University of Southern California/Amirkabir University 2012; Associate Professor of Petroleum Engineering 2021.

MORTEZA DEJAM, B.Sc. Petroleum University of Technology 2007; M.Sc. Sharif University of Technology 2009; Ph.D. University of Calgary 2016; Associate Professor of Petroleum Engineering 2022.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of Wyoming 2013; Associate Professor of Petroleum Engineering 2022.

Academic Professionals:

TAWFIK ELSHEHABI, B.Sc. Suez Canal University 2003; M.Sc. 2007; Ph.D. West Virginia University 2017; Senior Lecturer of Petroleum Engineering 2019.

Instructional Professors:

REZA TAHERI, B.Sc. Amirkabir University 1997; M.S. University of Twente, Netherlands 2001; Ph.D. Curtin University 2008; Assistant Instructional Professor of Petroleum Engineering 2020.

Professors of Practice:

DOUGLAS CUTHBERTSON, B.S. University of Wyoming 1985; Professor of Practice in Petroleum Engineering 2016.

BRIAN TOELLE, B.S. Texas A&M University 1978; M.S. Austin State University 1981; Ph.D. West Virginia University 2013; Professor of Practice in Petroleum Engineering 2015.

Professors Emeriti:

Jack Evers
H. Gordon Harris
Norman R. Morrow
Mrityunjai P. Sharma
Brian Towler

Petroleum Engineering trains students for Wyoming's largest industries, the production of crude oil and gas. With the recognition of the state's and nation's vast reserves of natural gas, the curriculum emphasizes the production and processing of this important resource. Because of American predominance in petroleum technology, career opportunities are available throughout most of the world.

The curriculum in petroleum engineering is based upon sound preparation in fundamental sciences, mathematics, physics, chemistry, and geology. The essentials of engineering are added to this foundation: computer programming, statics, dynamics, materials science, hydraulics, and thermodynamics. To aid in developing individuals' social potential and broaden their educational background, an integrated program in humanities and social sciences is included in the curriculum. Petroleum engineering courses, which are primarily concerned with application of previously acquired knowledge to problems of the oil and gas industry, are concentrated in the junior and senior years.

Petroleum Engineering degree candidates must meet the academic requirements of the college and must have a GPA of 2.000 or greater in Petroleum Engineering (PETE) courses attempted at UW that are applied toward graduation for the B.S. degree from the department. For approved electives, students must have prior approval of their advisor and department head. Elective courses must be chosen from a list provided by the department. Students must complete a minimum of 48 upper division (junior/senior) or graduate-level credit hours for this program.

Program Vision

As a highly respected community of scholars and practitioners, we are committed to providing outstanding petroleum engineering education, conducting internationally recognized research in key focus areas, and improving the well-being of the people of Wyoming and the world through education, technical innovation and economic development.

Program Mission

Provide outstanding, contemporary, ABET-accredited education in petroleum engineering to highly qualified undergraduates who will serve as an economic resource for Wyoming and the world.

Provide excellent, research-based graduate educations at the master's and doctoral levels in petroleum engineering to top students who will drive technical and economic innovation for Wyoming and the world.

Conduct internationally recognized research in key focus areas that leads to new technologies while also enhancing economic development for Wyoming and the world.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum Engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.

- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.

3. An ability to communicate effectively with a range of audiences.

4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.

5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Undergraduate "Major Only" Courses

Upper division PETE core courses are restricted to petroleum engineering majors only.

Technical Electives Policy

The technical electives in the petroleum engineering curriculum can be used to complete a curriculum emphasis option or a minor. The number of credits of upper division courses must be satisfied, therefore, 13 elective credits must be 3000-level courses or higher.

Note: Technical Electives must be selected with your advisor's documented approval.

Transfer Credit Limit

To graduate with a degree in Petroleum Engineering from UW, students must successfully complete at least 20 credit hours of required PETE courses at UW.

1. Once a student has transferred to UW's Department of Petroleum Engineering from another institution, they may transfer no more than 9 additional credits from other institutions.
2. Non-transfer students may transfer up to 18 credits from other institutions.

Repeating a Course

Students who fail a PETE class three times can no longer enroll in that class.

Academic Suspension

Students who have been academically suspended from UW twice are no longer eligible to enroll in PETE courses.

Curriculum Emphases

The Department of Petroleum Engineering has established curriculum emphases that could shape your interest further or acquire useful transferable skills. A curriculum emphasis is not a minor or concentration and will not be stated on your diploma. If you choose to follow a curriculum emphasis option, you should discuss it with your academic advisor so they can assist you in planning your courses.

Petroleum Engineering offers the following curriculum emphasis options:

- Unconventional Reservoirs
- Chemical Engineering
- Mechanical Engineering
- Graduate School Preparation

BS/MS Quick Start Program

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during the first or second semester of their junior year or *before* starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

1. Qualified students may receive provisional admission to the Petroleum Engineering graduate program by submitting a quick start application through the online graduate application system. This provisional admission will permit students to make their long-term educational plans earlier in their studies and before graduating the B.S. program, thus providing enhanced opportunities for course selection and involvement in research.
2. Students in the program may apply up to 6 credit hours of graduate-level courses toward both the B.S. and M.S. degree programs. By successfully completing up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergraduate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Study

The Department of Petroleum Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in petroleum engineering. The M.S. degree is offered with Plan A and Plan B options.

In addition, the Department offers an M.B.A./M.S. in Petroleum Engineering Dual Degree Program, in conjunction with the College of Business M.B.A. Program. Students pursuing this option must apply to and be offered admission from both programs.

Admission Process and Requirements

Graduate admission is open to students with at least a B.S. degree in petroleum engineering or closely related field and who meet the minimum requirements as shown below. Please note that test scores must be dated within the previous two years to be considered valid.

- A GPA of 3.000, or equivalent;
- A GRE score;
- A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) **or** an IELTS score of 6.5 in each category for international applicants. We are also accepting the DuoLingo exam with a minimum score of 110 required.

Applications must include the following documents uploaded with the online application:

1. Complete official transcripts of all prior college-level coursework,
2. Current resume or curriculum vitae,
3. Recommendations from at least three academic or professional references,
4. A statement of purpose, and
5. Unofficial test score certificates for both GRE and English proficiency exams.

Applications will not be reviewed or accepted until all required documents have been submitted.

The deadlines to submit applications are February 1 each year (to be considered for Fall semester), and September 15 each year (to be considered for Spring semester).

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/graduate/prospective/index.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Courses of Study

Incoming graduate students, not preselected by a faculty member, must meet with Petroleum faculty members to obtain information regarding research areas and current availability. The student must formally request a Petroleum faculty member of their choosing to oversee their degree study program.

Masters Program

1. All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following courses:

Required Courses	**Hrs.**
PETE 5355	3
PETE 5890	2
At least three Core Courses from the following:	
PETE 5010	3
PETE 5020	3
PETE 5060	3
PETE 5080	3
PETE 5310	3
PETE 5350	3
Plan A Thesis Additional Course Requirements:	
4000-level or above approved electives	12

PETE 5960.....4

Total Credits 30

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives.....14

PETE 5970.....2

Total Credits 30

2. All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following courses:

Required Courses	**Hrs.**
PETE 5055	3
PETE 5340	3
PETE 5355	3
PETE 5715	3
PETE 5890	2

At least four Core Courses from the following:

PETE 5010.....3

PETE 5020.....3

PETE 5060.....3

PETE 5080.....3

PETE 5310.....3

PETE 5350.....3

Plan A Thesis Additional Course Requirements:

4000-level or above approved electives.....7

GEOL 5190.....3

PETE 5960.....4

Total Credits 40

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives.....7

GEOL 5190.....3

PETE 5970.....4

Total Credits 40

Dual Degree Program - M.B.A./M.S. degree in Petroleum Engineering

3. All Dual Degree M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses	**Hrs.**
PETE 5355	3
PETE 5890	2

At least three Core Courses from the following:

PETE 5010.....3

PETE 5020.....3

PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4
Total Credits 30

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2
Total Credits 30

4. All Dual Degree students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses Hrs.
PETE 5055 3
PETE 5340 3
PETE 5355 3
PETE 5715 3
PETE 5890 2

At least four Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4
Total Credits 42

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2
Total Credits 42

Note: For a student with a B.S. in another discipline, upon acceptance into the M.S. program, the Graduate Program Committee will develop a plan of study with the consent of the advisor.

Doctoral Program

1. All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least four Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....18

Research
PETE 5980..... 30
Total Credits 72

2. All Petroleum Ph.D. students with an B.S. in Other Majors must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least five Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....15

Research
PETE 5980..... 30
Total Credits 72

**Transferable from MS degree if applicable.*

***Up to 14 credits of electives transferable from MS degree if applicable.*

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890, Petroleum Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by any source other than state funds will work with their supervisor or faculty mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and
- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy

of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Department of Physics and Astronomy

204 Physical Sciences Building,
(307) 766-6150
FAX: (307) 766-2652
Web site: www.uwyo.edu/physics
Department Head: Jinke Tang

Professors:

MICHAEL S. BROTHERTON, B.S. Rice University 1990; M.A. University of Texas at Austin 1992; Ph.D. 1996; Professor of Physics and Astronomy 2014, 2002.

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Professor of Physics 2007, 2000.

TEYU CHIEN, B.S. National Taiwan Normal University 2001; Ph.D. University of Tennessee-Knoxville 2009; Professor of Physics 2019, 2013, 2023.

DANIEL A. DALE, B.S. University of Minnesota 1993; M.S. Cornell University 1996; Ph.D. 1998; Professor of Physics and Astronomy 2009, 2001.

HENRY A. KOBULNICKY, B.S. University of Iowa 1991; M.S. University of Minnesota 1993; Ph.D. 1997; Professor of Physics and Astronomy 2014, 2002.

ADAM D. MYERS, M.S. Durham University, United Kingdom 2000; Ph.D. 2004; Associate Professor of Physics and Astronomy 2017, 2011; Professor of Physics and Astronomy Fall 2022

H. EDWARD SEIDEL, B.S. College of William and Mary 1981; M.S. University of Pennsylvania 1983; Ph.D. Yale University 1988; Professor of Physics and Astronomy 2020.

JINKE TANG, B.S. Jilin University 1982; M.S. Iowa State University 1990; Ph.D. 1989; Professor of Physics 2007.

Associate Professors:

MICHAEL J. PIERCE, B.S. University of Oklahoma 1980; M.A. University of Hawaii 1983; Ph.D. 1988; Associate Professor of Physics and Astronomy 2005, 2001.

JIFA TIAN, B.S. Beijing Normal University 2003; Ph.D. University of Chinese Academy of Sciences/Institute of Physics, CAS 2009; Associate Professor of Physics 2018, 2023.

WENYONG WANG, B.S. Nankai University 1993; M.S. Yale University 1999; Ph.D. 2004; Associate Professor of Physics 2014, 2008.

Assistant Professors:

MERIDITH JOYCE, B.S. Bucknell University 2013; M.A. Dartmouth College 2015; Ph.D. Dartmouth College 2018; Assistant Professor of Physics and Astronomy 2024.

MAXWELL MOE, B.A./B.S. University of Colorado, Boulder 2009; M.A. Harvard University 2011; Ph.D. Harvard University 2015; Assistant Professor of Physics and Astronomy 2022.

ALEXANDER P. PETROVIC, B.A. & M.Phys. University of Cambridge 2003; M.A. (Cantab) 2006; Ph.D. University of Geneva 2009; Assistant Professor of Physics 2023.

YU-TSUNG TSAI, B.S. National Chiao Tung University 2004; M.S. 2006; Ph.D. University at Buffalo 2015; Assistant Professor of Physics 2024

Senior Academic Professional Lecturer:

RÜDIGER MICHALAK, Dipl. Phys FZ Julich 1989; Ph.D. 1993; Academic Professional Lecturer in Physics and Astronomy 2007, 2004.

Assistant Academic Professional Lecturers:

RICHARD E. BARRANS Jr., B.A. Johns Hopkins University 1985; Ph.D. California Institute of Technology 1993; M.Ed. John Carroll University 2004, Assistant Academic Lecturer in Physics and Astronomy 2013, 2023.

AYSENUR BICER, B.S. Ege University 2006; M.S. 2009; Ph.D. Texas A&M University 2018; Assistant Lecturer in Physics 2019.

Adjunct Professors:

GABRIELLE ALLEN, PU DU, PAUL MARQUARD, WILLIAM RICE, ZHAOHUI SHANG, TIM SLATER, HANNAH JANG-JANG-CONDELL, EDMUND SYNAKOWSKI, JIMMIE VERLEY

Professors Emeriti:

RONALD W. CANTERNA, PAUL E. JOHNSON, A.RAYMOND KUNSELMAN, TERRY P ROARK, JAMES M. ROSEN, DAVID R THAYER

Physics originated in antiquity as the study of natural philosophy. As such, it attempts to describe the universe within the context of both physical laws and the fundamental particles of nature. The broad scope of physics runs from the microscopic nuclear structure and that of the elementary particles themselves to the macroscopic, the galaxy and evolution of the universe as a whole. Today the subject is generally divided into broad areas such as condensed matter, nuclear, elementary particles, astrophysics, etc. The department maintains competence in most major branches of physics and offers instruction in these areas at both the undergraduate and graduate levels. In addition, it has a strong interest and involvement in science education.

Learning Outcomes

The B.S. and B.A. in Physics, the B.S. in Astronomy, and the B.A. in Physics and Physics Education all have the broad objectives enumerated below. These objectives are designed to promote the success of our majors in their chosen career path, whether that takes them into academia, secondary teaching, industry or further education:

1. Provide students with problem-solving and data-manipulation skills appropriate to the growing range of scientific and technological careers in academia or industry.
2. Develop students' oral, written, interpersonal and communication skills.
3. Provide students with skills in experimental design, data collection, and data analysis through research experiences in a laboratory/computational/telescope setting.
4. Educate students in the application of mathematical tools that will be useful for them to achieve success in a postcollege career.
5. Provide a conceptual and analytical uderstanding of the core areas of physics and their specialty area.
6. Provide students with an understanding of scientific reasoning, i.e., the roles of theory, hypothesis, and experiment in the scientific method.

The B.S. in Physics and the B.S. in Astronomy are primarily designed for students who wish to pursue post-graduate education or to have a more in-depth physics background. The Physics B.A. is primarily designed for students interested in pursuing a double major, or a professional career. The B.A. in Physics and Physics Education is structured for those interested in pursuing a secondary science teaching career.

Undergraduate Curriculum

The four-year physics programs are the Bachelor of Arts in physics and the Bachelor of Science in physics. The Bachelor of Science programs are intended for students who will pursue a career or a graduate degree in the field, whereas the Bachelor of Arts program is primarily geared toward those who are interested in pursuing physics as a second major. The department also offers a Bachelor of Science degree in Astronomy and Astrophysics.

Graduate Study

The Department of Physics and Astronomy offers the degrees of master of science in physics, master of science in teaching, and doctor of philosophy. Advanced degrees in physics may be based on experimental or theoretical research in physics or astrophysics.

Please refer to the departmental homepage at http://www.uwyo.edu/physics/ for the programmatic updates, or contact the department directly.

Program Specific Admission Requirements

We will begin to review applications in late January. Both the GRE general and physics subject exams are optional, and we will review all applications on their

total merits. Students of all backgrounds, ethnicities, genders and countries of origin are encouraged to apply at http://www.uwyo.edu/admissions/apply-online.html

Applications should include:

-Resume or CV

-Undergraduate transcript

-A Personal Statement that says why you want to pursue a PhD, why Wyoming is a good fit for you, and what experiences you've previously had completing long-term projects

-Three letters of recommendation (this will be done through the application website)

-GRE scores Both the GRE general and physics subject exams are optional.

-TOEFL for non-native English speakers

-Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

The Physics and Astronomy Department commits to providing first- and second-year students with teaching assistantships for the nine-month academic year. More advanced students are generally supported on federal grants or fellowships. Both teaching and research assistantships carry a full tuition waiver and insurance. Summer assistantships are often available to students making satisfactory progress. Refer to http://www.uwyo.edu/physics/ for current amounts.

School of Computing

Engineering Building, Room 4083
Phone: (307)766-5299 Email: uwyo-soc@uwyo.edu

Gabrielle Allen, Director
Website: www.uwyo.edu/soc

The School of Computing is a hub of innovation and knowledge exchange for computing and digital skills.

The school aims to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the computational tools, skills and approaches to drive transformation and innovation in the state. The School of Computing champions broader efforts to make the University of Wyoming more digital, inclusive, interdisciplinary, and entrepreneurial through computing partnerships across Wyoming.

Vision:

Create a unique and inspirational School of Computing with national impact and global reach, providing Wyoming and the world with agile and ethical computing professionals, empowered to address societal challenges that are inherently interdisciplinary.

Mission:

Position our land grant institution as: a national leader in computational and digital research, education, and engagement; a computational hub for students, faculty, staff, community, and our industry/state/academic partners; a steward, supporter, and developer of digital skills and computational thinking for all.

Values:

- Excellence in research, teaching, and engagement
- Partnership and collaboration
- Diversity, equity, and inclusion in computing
- Context-based experiential learning
- Computing across disciplines, including social sciences, arts, humanities and STEM

Centers:

WyGISC is an interdisciplinary research and education institute at the University of Wyoming. The Wyoming Geographic Information Science Center (WyGISC) is an interdisciplinary academic center focused on education, research and development of geospatial information and technologies and their applications in science, government, business, and other areas.

The Data Science Center provides an academic hub for data science at UW, providing the key academic component in a "UW Data Science Collaboratory" (DSC, Library, ARCC, WyGISC, WNA, Maker Space, Extension along with disciplinary partners including AHC, INBRE Data Core, WYNDD, RMH, 3D Viz, NSF WyACT, etc).

Engagement Programs:

<u>Data Science Center Fellows</u>

The Data Science Center supports two Faculty Fellows each academic year in pursuit of excellence in research, teaching, and engagement in data science at the University of Wyoming.

<u>Faculty Fellows</u>

The Faculty Fellows program supports projects that advance computing research, learning, and engagement across the university, with a focus on aligning with university initiatives, fostering applied computing, impacting student experiences, integrating the School of Computing, and promoting digital for all.

<u>Graduate Computing Scholars</u>

Graduate Computing Scholars are proudly supported for being outstanding graduate students demonstrating immense potential in their computational careers. They are enrolled in Ph.D. or Master's programs at the University of Wyoming, pursuing research projects where innovative computing and/or the advancement of computing play a crucial role.

<u>UW Derecho Professors</u>

The *UW Derecho Professor* designation provides named professors in any academic field with up to 5 million core hours of access to both traditional compute nodes and accelerators on the Derecho supercomputer at the NCAR Wyoming Supercomputing Center (NWSC). Leveraging and enhancing the UW-NCAR partnership, the initiative contributes to recruiting and retaining UW faculty whose research program in computing will be strengthened through a flexible and guaranteed allocation on this resource.

<u>Visiting Scholars</u>

Visiting Scholars are used to support short-term visiting scholars that are faculty, post-docs, or advanced graduate students (in the final 2 years of studies). The funds may be used to cover travel, lodging, and meal costs as well as a stipend for the visiting scholar.

Personnel:

All personnel affiliated with the School of Computing is listed accordingly at https://www.uwyo.edu/soc/people/index.html.

The People at the School of Computing webpage includes the Administrative Team, Advisory Board, Graduate Students (internal and external to the School), Faculty (Research Scientists, Core, Adjunct, and Post-Doctoral Associates), and UW Derecho Professors.

Accreditation:

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education.

Program Specific Admission Requirements (Undergraduate)

Undergraduate students apply for admission to the University of Wyoming and then declare a major or minor within SoC at any point during their course of study. To declare a major, students must meet with their SoC affiliated academic advisor. Any student wanting to add the SoC minor should consult an SoC affiliated advisor to streamline their program.

All SoC programs will emphasize experiential learning and encourage interdisciplinary courses when possible.

General Policies:

- A minimum 2.00 UW GPA is required to apply for the minor.
- It is the student's responsibility to monitor requirements for the minor, along with their advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the minor must be passed with a grade of "C" or better.

Program Specific Admission Requirements (Graduate)

Graduate GIST Certificates and Degrees - see https://www.uwyo.edu/wygisc/academics/graduate-programs/index.html

College of Health Sciences

235 Health Sciences Center

Jacob Warren, Dean
Phone: (307)766-3495
Web site: www.uwyo.edu/hs

The College of Health Sciences is the place for students interested in improving and maintaining the physical, mental, and social health of others. We offer challenging degree programs in the health and wellness professions and serve as the gateway to schools of medicine, dentistry, physical and occupational therapy, physician's assistant study, optometry, and more.

Health sciences students receive not only a superior education from knowledgeable and caring faculty but also precise and personal guidance from conscientious advising personnel. Students benefit, too, from practical experiences that help them refine and test the skills acquired in lectures and labs as well as opportunities to participate in dynamic, interdisciplinary research projects.

The college is also the home of the Wyoming Institute for Disabilities (WIND); two Family Medicine Residency Centers; and the WWAMI Medical Education Program.

We serve as the state certifying office for the Wyoming, Washington, Alaska, Montana, and Idaho (WWAMI) medical education contract program with the University of Washington School of Medicine; WYDENT, the dental education contract program with the University of Nebraska and Creighton University; and two programs for the Western Interstate Commission of Higher Education (WICHE): the Professional Student Exchange Program (PSEP) and the Western Regional Graduate Program (WRGP). Refer to the sections on WWAMI, WYDENT, and WICHE in this catalog for program descriptions or go to www.uwyo.edu/certwy.

Any student seeking admission to programs in the College of Health Sciences will be required to obtain a background check as specified by college policy. Please contact your school or division for specific information.

The College of Health Sciences retains the right to deny or revoke admission to any of its programs for academic, disciplinary, ethical, or professional standards reasons.

Programs of Study

Undergraduate Degrees

Majors

Dental Hygiene, B.S.D.H.

Kinesiology and Health Promotion, B.S.

Medical Laboratory Science, B.S.

Nursing, B.S.N., Basic BSN Option

Nursing, B.S.N., BRAND Option

Nursing, B.S.N., BSN Completion - ReNEW Option

Nursing, B.S.N., BSN Completion - RN-BSN Option

Physical Education Teacher Education K-12, B.S.

Social Work, B.S.W.

Speech, Language and Hearing Science, B.S.

Minor

Disability Studies Minor

Graduate Degrees

Master of Science

Health Services Administration
Nursing
Kinesiology and Health
Speech-Language Pathology

Master of Social Work

Professional Degrees

Doctor of Nursing Practice
Doctor of Pharmacy

Health Sciences and Pre-Professional Health Advising Office

Health Sciences Center, 112-114

The Health Sciences and Pre-Professional Health Advising Office (www.uwyo.edu/preprof/) provides pre-professional health advising to all UW students regardless of their academic majors, who are interested in pursuing future study in athletic training, chiropractic, dentistry, medicine, optometry, occupational therapy, physical therapy, physician assistant, or other health care careers such as public health or genetic counseling. A bachelor's degree is usually required for admission to a professional program. The University of Wyoming offers professional education in pharmacy, social work, speech-language pathology, and nursing, but not in other health care fields. Students may pursue any UW degree program in which they have an interest and at the same time complete the admissions requirements for the professional program they wish to attend. Students are advised by a career advisor from the Pre-Professional Health Advising Office as they work toward completing their academic and experiential prerequisites to become a strong applicant for a professional program. A primary advisor will also be assigned to each student for their degree program.

Through this office, pre-health students can access current information about admissions requirements, entrance examinations, the application process, professional program curricula, interviewing skills, and test preparation. Specific professional programs may have additional requirements; students are urged to check with the programs they wish to attend.

Information about and applications to certify Wyoming state residency for the WICHE PSEP program, the WWAMI Medical Education program, and the WYDENT dental education program may be found online at http://www.uwyo.edu/certwy.

Please view individual division and program pages list for full course and curriculum listings

Division of Communication Disorders

265 Health Sciences, (307) 766-6427

FAX: (307) 766-6829

Web site: www.uwyo.edu/comdis

Director: Mark Guiberson

Professors:

MARK GUIBERSON, B.A. University of Colorado 1997; M.A. 1999; Ph.D. Colorado State University 2006; Professor of Speech-Language Pathology 2019, 2011.

DOUGLAS PETERSEN, B.A. Utah State University 1999; M.Ed. Utah State University 2002; Ph.D. Utah State University 2010.

Associate Professors:

BREANNA KRUEGER, B.A. University of Wyoming 2007; M.A. University of Kansas 2011; M.A. 2013; Ph.D. 2017; Associate Professor 2023, 2017.

Assistant Professors:

KATELYN J. KOTLAREK, B.S. University of Wisconsin-Madison 2012; M.S. Florida State University 2014; Ph.D. East Carolina University 2019; Assistant Professor 2019.

ZOE KRIEGEL, B.S. Kent State University 2016; M.S. Bowling Green State University, 2018; Ph.D. Bowling Green State University, 2022.

AMY K. PETERSON, B.S. University of Wyoming 2008; M.S. University of Wyoming 2010; Ph.D. Utah State University, 2022.

Lecturers:

SHELLEY BARTON, B.A. University of Wyoming 2005; M.S. 2008; Instructor 2018.

ESTHER HARTSKY, B.A. Adams State University 2000; A.A.S. Pikes Peak Community College 2004; MA University of Northern Colorado 2021, Assistant Lecturer 2017.

KARLEE SMITH, B.S. University of Wyoming 2014; M.S. University of Wyoming 2013; Lecturer 2020.

Clinical Professors:

TERESA J. GARCIA, B.S. University of Wyoming 1989; M.S. 1991; Clinical Professor 2020, 2016, 1995.

Associate Clinical Professors:

CORRI SANDOVAL, B.S. University of Wyoming 2000; M.S. 2010; Associate Clinical Professor 2020.

Assistant Clinical Professors:

HEIDI CLARK, B.S. University of Virginia 1998; M.A. Kent State University 2000; Assistant Clinical Professor 2020.

HANNAH YOUNG, B.S. University of Wyoming 2015; M.S. Pennsylvania State University 2017; Assistant Clinical Professor.

Adjunct Clinical Instructor:

Melissa Denker, M.S., CCC-SLP

Professors Emeriti:

Michael A. Primus, Mary Hardin-Jones, David L. Jones

About the Division of Communication Disorders

The Division of Communication Disorders offers three academic programs: a certificate in American Sign Language Studies, a Bachelor's of Science (B.S.) degree in Speech, Language and Hearing Science, and a Master of Science (MS) degree in Speech- Language Pathology. Information on these programs can be found on the links on the bottom of this page. The Division is also home to the University of Wyoming Speech & Hearing Clinic. Information about the Division's Vision, Mission, and Strategic Plan can be found on the Division website, as well as important information about the Division's Diversity, Equity, and Inclusion statement (https://www.uwyo.edu/comdis/index.html).

Speech and Hearing Clinic

The UW Speech and Hearing Clinic is a training center for students from the Division of Communication Disorders, including B.S. students in the Speech, Language, and Hearing Sciences program and M.S. students in the Speech-Language Pathology program. Student clinical experiences occur under the direct supervision of state licensed and ASHA-certified speech-language pathologists (CCC-SLP) The clinic also provides audiology services from a ASHA-certified and state licensed audiologists (CCC- A). In addition to on-campus services, the clinic provides telepractice speech-language pathology services. Clinical services are available to students, faculty as well as the larger community. More information can be found on the UW Speech and Hearing Clinic website: https://www.uwyo.edu/comdis/uw-speech-and-hearing-clinic/index.html.

Division of Kinesiology and Health

Corbett Building, (307) 766-5284
FAX: (307) 766-4098
Web site: www.uwyo.edu/kandh
Director: Derek Smith

Professors:

TAMI BENHAM DEAL, B.S. Indiana University 1981; M.S. 1988; P.E.D. 1989; Professor of Kinesiology and Health 2012.

CHRISTINE M. PORTER, B.S. University of Maryland 1993; M.A. University of London 2002; Ph.D. Cornell University 2010; Professor of Kinesiology and Health 2021, 2016, 2010.

TRISTAN WALLHEAD, B.S. Loughborough University 1994; M.S. Leeds Metropolitan University 2000; Ph.D. Ohio State University 2004; Professor of Kinesiology and Health 2017, 2010, 2004.

QIN ZHU, B.S. Shanghai University of Sports 1999; M.Ed. 2002; Ph.D. Indiana University 2008; Professor of Kinesiology and Health 2020, 2014, 2008.

BOYI DAI, B.Ed. Beijing Sport University 2007; M.S. Iowa State University 2009; Ph.D. University of North Carolina at Chapel Hill 2012; Professor of Kinesiology and Health 2022, 2017, 2012.

BRYANT SMALLEY, B.S. Georgia Southern University 2002; M.S. Nova Southeastern University 2005; PhD Nova Southeastern University 2010.

JACOB WARREN, B.S. Georgia Southern University 2003; M.B.A. Georgia Southern University 2016, PhD Miami School of Medicine 2006

BRANT SCHUMAKER, B.S. University of California - Davis, 2001; D.V.M University of California - Davis, 2005; M.P.V.M. University of California - Davis, 2006; Ph.D. University of California - Davis, 2010; Professor of Kinesiology and Health 2022, 2016, 2010.

Associate Professors:

EVAN C. JOHNSON, B.A. The George Washington University 2004; M.A. University of Connecticut 2008; Ph.D. 2014; Associate Professor of Kinesiology and Health 2020, 2015.

DEREK SMITH, B.S. Colorado State University 1997; M.S. Wake Forest University 1999; Ph.D. University of Colorado 2003; Associate Professor of Kinesiology and Health 2009, 2003.

DANIELLE BRUNS, B.S. Linfield College-McMinnville 2008; M.S. Colorado State University 2010; Ph.D. 2013; Associate Professor of Kinesiology and Health 2018, 2022.

Assistant Professors:

BEN KERN, B.A. Western Colorado University 1999; M.A. Adams State University 2002; Ph.D. University of Illinois Urbana-Campaign 2017; Assistant Professor Kinesiology and Health 2020.

EMILY E. SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina at Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor of Kinesiology and Health 2018.

KELLY SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016; Ph.D. Louisiana State University 2018; Assistant Professor of Kinesiology and Health 2021.

LAUREN GILBERT, B.S. Marquette University, 2009; M.A. University of Florida, 2012; M.P.H. University of Florida, 2015; Ph.D. University of Florida, 2015; Assistant Professor of Kinesiology and Health, 2023.

Senior Lecturers:

MARCI SMITH, B.S. Colorado State University 1995; M.S. Wake Forest University 1998; Senior Lecturer in Kinesiology and Health 2015, 2003.

RACHEL WATSON, B.S. University of Denver 1998; M.S. University of Wyoming 2001; Senior Lecturer in Kinesiology and Health 2022.

Assistant Lecturers:

LACEY GAECHTER, B.A. University of Colorado 2004; M.S. University of Wyoming 2016; Assistant Lecturer in Kinesiology and Health 2021

SANDY GOHEEN-SMITH, B.S. Montana State University, Billings 1995; M.S. University of Wyoming 2015.

JACOB LAYER, B.A. Capital University 2015; M.S. University of Wyoming 2017

ALISA SICELOFF, VMD University of Pennsylvania 1997, Assistant Lecturer in Kinesiology and Health 2021

ANGELA SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016.

Adjunct Faculty:

MIKE COTTERMAN, SHANE TWEETER, GRETCHEN SEWCZAK-CLAUDE

Professors Emeriti:

Paul Dunham, Ward Gates, Charles W. Huff, Donna Marburger, D. Paul Thomas, Mark Byra, Jayne Jenkins

The Division of Kinesiology and Health offers the Kinesiology and Health (K&H) major and the Physical Education Teacher Education (PHET) major. These two majors prepare students for a variety of clinical and nonclinical settings including teaching physical and health education in schools K-12. Students enrolled in these programs must meet academic standards as determined by the Division of Kinesiology and Health, College of Health Sciences, and the University of Wyoming.

The K&H major prepares students for admission to physical therapy school and occupational therapy school, as well as other health professions (e.g., physician, physician assistant, dentist, chiropractor, optometrist, etc.). Approximately 60% of students majoring in K&H apply to one of these health professional schools once they have completed their B.S. degree in Kinesiology and Health. Other students majoring in training, fitness, recreation and leisure, and community and public health enter a very diverse job market.

The PHET program prepares students to teach physical and health education (PHET) in K-12 schools. The PHET major is a nationally recognized program for meeting the AAQEP/NASPE Initial Physical Education Teacher Education Accreditation Standards. This program offers individuals opportunity to combine certifications/endorsements in health education K-12, adapted physical education K-12, and coaching.

A graduate program leading to a Master of Science degree in Kinesiology and Health is offered by the Division.

Professional Program

Students who meet University of Wyoming entry requirements are admitted to the university in one of the two undergraduate majors that leads to the Bachelor of Science degree. The Division's undergraduate majors are open at the freshman level to all graduates of accredited high schools. Advanced placement for students with previous college credit is based on evaluation of transcripts of previous academic work.

Students in the Kinesiology & Health (K&H) program are ready to move forward in the junior year of the program when they complete the pre-requisite requirements to enroll in KIN 3021 and KIN 3022, Physiology of Exercise lecture and laboratory. To be eligible for the K&H Professional Program (junior/senior years), students must have completed

all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Advancement in the K&H Professional Program is complete once prerequisite criteria is met.

The entry course for admission to the Physical Education Teacher Education (PHET) program is KIN3012 - Teaching Laboratory I. To be eligible, for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Admission to the last two years of the PHET major is a competitive process and is only conducted for Fall semester. Application to the PHET majors is conducted only for fall. The application deadline is early April.

Undergraduate Majors

Kinesiology and Health Promotion, B.S.

Physical Education Teacher Education K-12, B.S.

Additional School Endorsments K-12

Adapted Physical Education K-12 Endorsement

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement / Permit

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

Graduate Study

Program Specific Admission Requirements

Admissions into the M.S. degree program are open to people who have obtained an undergraduate degree with a major program of study in exercise and sport science, health, kinesiology, physical education, or other areas in human movement sciences. Students who have undergraduate degrees in other areas may be required to complete additional courses, including Human Anatomy, Human System Physiology, Exercise Physiology, and other Kinesiology and Health classes recommended by the advisor. Individuals interested in applying are encouraged to contact the Graduate Program Coordinator, Dr. Boyi Dai (bdai@uwyo.edu), for more information.

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html): K&H supplemental application, transcripts, statement of intent, a sample of professional writing, and three letters of recommendation. Applications must be submitted no later than February 1 to be considered for Fall admission; Spring admissions are also considered on a case-by-case basis. More information about the application can be found on the Division's website (http://www.uwyo.edu/kandh/future-graduate/graduate-application.html).

A minimum of a 3.0 undergraduate cumulative GPA is also necessary for admission. GRE scores are not required for admission or graduate assistantship consideration but can be submitted to enhance the application. International students who are not native English speakers are required to provide proof of English proficiency: http://www.uwyo.edu/admissions/international/requirements-graduate.html. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also meet additional English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Polices in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

Graduate assistantships are available on a competitive basis. Teaching opportunities exist within the laboratory portions of the human anatomy and Kinesiology and Health courses and the teaching laboratory portions of the pedagogy practical courses. A graduate assistantship also involves some research opportunities with assigned graduate faculty advisors.

A stipend for a full-time graduate assistant is $12,825.00 per academic year. Tuition and fees are covered according to the percentage of assistantship allocated to the student.

Program Specific Degree Requirements Master's Programs

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Health Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, M.S. *Plan B (paper and experiential learning option)*

Kinesiology and Health Distance Education, M.S. *Plan B (paper)*

Division of Medical Education

Family Medicine Residency Programs

https://acalogcatalog.uwyo.edu/preview_entity.php?catoid=9&ent_oid=1779&returnto=964

Designated Institutional Officer: Beth Robitaille

(307) 234-6161

Casper: Brian Veauthier, Director

(307) 234-6161
Cheyenne: Evan Norby, Director
(307) 777-7911

Professors:

JAIME HORNECKER, B.S. Texas Tech University 1999; PharmD University of Wyoming 2003; Clinical Professor of Pharmacy Practice, School of Pharmacy, Family Medicine, Casper.

MICHAEL MILLER, B.A. Wheaton College 1992; D.O. Kirksville College of Osteopathic Medicine 2000, Clinical Professor of Family Medicine, Casper.

BETH ROBITAILLE, B.A. University of Notre Dame 1991; M.D. Creighton University School of Medicine 1995; Clinical Professor of Family Medicine, Casper.

BRIAN M. VEAUTHIER, B.S. University of Notre Dame 1996; M.D. Georgetown University School of Medicine 2001; Clinical Professor of Family Medicine, Casper.

Associate Professors:

ZACH DEISS, B.A. University of Wyoming 1979; M.D. Creighton University School of Medicine 1987; Clinical Associate Professor of Family Medicine, Casper.

RONALD L. MALM, B.S. University of Wyoming 1988; D.O. The University of Health Sciences, College of Osteopathic Medicine 1992; Clinical Associate Professor of Family Medicine, Cheyenne.

LEENA MYRAN, B.S. University of Wyoming 2012; PharmD. University of Wyoming School of Pharmacy 2012; Clinical Associate Professor of Pharmacy Practice, Family Medicine, Casper.

SHARON KARNES, B.S. University of Washington School of Medicine 1997; M.D. University of Washington School of Medicine 2001; Clinical Associate Professor of Family Medicine, Casper.

CAROLINE KIRSCH, B.S. University of Wyoming 1993, 2002; M.S. University of Wyoming 1996; D.O. New York College of Osteopathic Medicine 2007; Clinical Associate Professor of Family Medicine, Casper.

CYNTHIA WORKS, B.A. Creighton University 1981; M.D. University of Arizona College of Medicine 1985; Clinical Associate Professor of Family Medicine, Casper

Assistant Professors:

RITA BARRY DO, Assistant Professor at Cheyenne program - University of Oregon Bachelors in Biochemistry 2012, Oregon Health and Science University Doctorate of Medicine 2017

JODY COUSINS MD, Assistant Professor at Cheyenne program - University of Wyoming Bachelors of Science in Psychology 1999, University of Washington School of Medicine 2006 Doctorate of Medicine

JAMES EGGERT, MD, Assistant Professor at Cheyenne program - University of California 2010 Bachelors in Bioengineering : Premedical, San Juan Bautista School of Medicine 2019 Doctorate of Medicine

BLAINE LEVY, B.S. Midwestern University 2008; D.O. Arizona College of Osteopathic Medicine of Midwestern University 2012; Clinical Assistant Professor of Family Medicine, Casper.

EVAN NORBY, B.S. Brigham Young University 2007; D.O. Arizona College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Cheyenne.

LAVINIA SALAMA PhD, Assistant Professor at Cheyenne program - -Doctor of pharmacy (PharmD) with concentration in nephrology, Albany College of Pharmacy and Health Sciences in Albany, NY- May 2020, -PGY1: general residency at Southeast Hospital in Cape Girardeau, MO - June 2021, PGY2 in Ambulatory Care at Albany College of Pharmacy and Health Sciences - July 2022

TABITHA THRASHER, B.S. University of Central Missouri 2001; D.O. Rocky Vista College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Casper.

Lecturers

LAURA CAPASSO, B.A. University of Wyoming 2012; M.S. University of Wyoming 2014; Ph.D. University of Northern Colorado, 2019; Assistant Lecturer, Family Medicine, Cheyenne.

BURL MAURER, B.A. Kennesaw College 1984; M.S.W. University of GA School of Social Work 1988; Associate Lecturer, Family Medicine, Casper.

PAMELA OILER, B.S.W. University of Wyoming 1999; M.S.W. Colorado State University 2005; Associate Lecturer, Family Medicine, Cheyenne.

To address the need for broadly trained primary care physicians in Wyoming, the Wyoming Legislature established two residency programs in the specialty of family medicine. These two accredited, university-administered, community-hospital based family medicine residency programs are located in Casper and Cheyenne. They enroll up to 42 residents (14 in each of three years). The two family medicine centers maintain a 1:4 faculty to resident ratio. The program at Casper began in 1976 and is affiliated with Wyoming Medical Center. The program utilized the services and facilities provided by the Educational Health Center of Wyoming. The Rural Training Track Program is a partnership with the Casper core program and Hot Springs County Memorial Hospital that provides a unique, hands-on experience for rural practice by training in the rural community of Thermopolis, Wyoming. It enrolls up to 3 residents (1 in each of three years). Casper's Geriatric fellowship is Wyoming's only post-graduate medical education training program. The fellowship provides training specialized in geriatrics to produce Board-certified geriatricians to care for the state's aging population. The Cheyenne program became active in 1980 and is affiliated with Cheyenne Regional Medical Center. The program utilizes the services and facilities provided by the Educational Health Center of Wyoming and has a close working relationship with the Veterans Administration Hospital. Both centers include spacious examining rooms; treatment and casting rooms; x-ray facilities; offices for faculty, residents and staff; complete laboratories; multiphasic research areas; conference rooms; business offices and roomy waiting rooms with play areas in the clinical component. In the educational component, both include large auditoriums; learning resource centers and administrative offices. Particular emphasis in both centers is placed on preparing physicians for rural practice and other facets of medical practice that are unique to Wyoming.

WWAMI Medical Education Program

Laramie: TBD, Director
(307) 766-2496 (Front Office)
John Willford, Assistant Director
(307) 766-4249
Web site: www.uwyo.edu/wwami

Associate Professors

CAMERON WALKER, B.S. Iowa State University of Science and Technology 1996; M.A. Iowa State University of Science and Technology 2000; Ph.D. University of Oregon 2006; Clinical Associate Professor, WWAMI.

JOHN WILLFORD, B.S. University of Wyoming 2005; Ph.D. University of Wyoming 2008; Clinical Associate Professor, WWAMI.

Assistant Professors

DANIELLE BRUNS, B.S. Linfield College 2008; M.S. Colorado State University 2010; Ph.D. Colorado State University 2013; Assistant Professor Kinesiology & Health, WWAMI.

ESTHER GILMAN-KEHRER, B.S. University of Wyoming 1986; M.S. University of Wyoming 1998; Post-Master's F.N.P. University of Colorado 2000; Post-Master's Nurse Midwifery 2002; D.N.P. University of Colorado 2012; Clinical Assistant Professor, Fay W. Whitney School of Nursing, WWAMI.

DANA GOVAERTS, B.S. University of Nebraska 1988; M.D. University of Nebraska Medical Center 1992; Clinical Assistant Professor, WWAMI.

DANIEL RADOSEVICH, B.S. University of Wyoming 1985; M.D. University of Colorado Medical School 1991; Clinical Assistant Professor, WWAMI.

EMILY SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina-Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor Kinesiology & Health, WWAMI.

The University of Wyoming medical contract program enhances medical education opportunities for Wyoming residents. In March 1996, the University of Wyoming became a partner in the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) Program. The WWAMI program is Wyoming's medical school and the program delivers the first two years of the University of Washington School of Medicine (UWSOM) medical school curriculum on the University of Wyoming campus. The remaining two years of the curriculum are spent in clinical rotations throughout the five-state WWAMI region. Twenty Wyoming residents are accepted into the WWAMI program each year and receive their M.D. degree from the UWSOM. For further information, contact the Wyoming WWAMI Office, College of Health Sciences, Laramie, Wyoming 82071, (307) 766-2496.

Wyoming WWAMI Medical Education Program

FIRST YEAR: Summer Hrs.

HM 6710.....9

FIRST YEAR: Fall Hrs.

HM 6603.....2

HM 6720.....7

HM 6730.....7

Total Hrs. 16

FIRST YEAR: Spring Hrs.

HM 6602.....2

HM 6603.....2

HM 6740.....5

HM 6750.....5

HM 6755.....1

HM 6760.....6

HM 6770.....5

Total Hrs. 26

SECOND YEAR: Fall Hrs.

HM 6602.....2

HM 6603.....2

HM 6775.....3

HM 6800.....7

HM 6900.....5

Total Hrs. 19

Fay W. Whitney School of Nursing

351A Health Sciences Center,
(307) 766-4312
FAX: (307) 766-4294
Web site: www.uwyo.edu/Nursing
Dean: Sherrill J. Smith
Associate Dean: Karen L. Gorton

Professors:

ANN MARIE HART, B.S.N. Medical College of Virginia 1991; M.S. University of Wyoming 1996; Ph.D. University of Colorado Health Sciences Center Denver 2003; Professor of Nursing 2015.

SHERRILL J. SMITH, B.S.N. University of Wisconsin-Eau Claire 1985; M.S. Wright State University 1997; Ph.D. University of Northern Colorado 2008; Professor of Nursing 2019; Dean of Nursing 2019.

JENIFER THOMAS, B.S. Colorado State University 1994; M.S. Avila University 2000; M.S. Colorado State Unviersity2007; Ph.D. 2008; Professor of Nursing 2023.

Associate Professors:

REBECCA CARRON, B.S.N. Texas Christian University 1976; B.A. University of Wyoming, 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

KAREN GORTON, B.S. Wheaton College, 1986; M.S. Indiana University, 1988; B.S.N. Carroll College/Columbia College of Nursing 1988; M.S.N. University of Wisconsin - Milwaukee 2003; Ph.D. University of Northern Colorado 2010; Associate Professor of Nursing 2023.

JANET WILLHAUS, B.S.N. University of Kansas 1985; M.S. Fort Hays State University 2008: Ph.D. Washington State University 2013; Associate Professor of Nursing 2020.

Assistant Professors:

JENNIFER M. STEPHENS, B.S.N. Texas Christian University 1976; B.A. University of Wyoming 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

Clinical Associate Professors:

ESTHER GILMAN-KEHRER, B.S.N. University of Wyoming 1986; M.S. 1998; D.N.P. University of Colorado 2012; Clinical Associate Professor 2021.

NANCY MCGEE, B.S.N. University of Wyoming 2005; M.S. 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

J'LAINE PROCTOR, B.S.N. University of Wyoming 2000; M.S. 2003; Certificate-PMHNP 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

Clinical Assistant Professors:

NANCY "NIKI" EISENMANN, B.S.N. University of Nebraska Medical Center 2002; M.S. Nebraska Wesleyan University 2008; Ph.D. University of Missouri-Kansas City 2020; Clinical Assistant Professor 2020.

Senior Lecturers:

Associate Lecturers:

Carrie Barr, Paula Kihn, Candace Stidolph, Christina Warren

Assistant Lecturers:

Megan Beach, Shirley Boggs, Ashley Lair, Jennifer Langevin, Cheryl Rodgers, Shannon Schneider, Amy Turpin, Sarah Whitman

Adjunct and Part-time Faculty:

Amy Aldrich, Nicole Alexander, Nikki Armstrong, Jennifer Barbee-Crim, Timothy Barnes, Paula Belknap, Jennifer Browne, Colleen Butler, Britni Camino, Carol Campbell, Erin Clikeman, Robin Cole, Mary Cox, Robyn Curtis-Rice, Wesley Davis, Alison Doherty, Michelle Dowling, Sharon Farra, Jennifer Favilla, James Fleenor, Shelby Frost, Deborah Gaspar, Brian Gee, Mary Kay Goetter, Julian Good, Grace Gosar, Pete Gosar, Sheriedan Grannan, Nancy Halsey, Lori Hart, Jennifer Helmer, Jesse Henry, Holly Hink, Michelle Hipsak, Jennifer Hluwood, Barbara James, Dawn Jensen, Amy Johnson, Jayne Josephsen, Sunny Kaste, Melanie Kawulok, Katie Keller, Carol Kobulnicky, Cheryl Koski, Cory Lamblin, Kara Laughlin, Anthony Leonard, Sue Lowe, Cristina Mcafee, Lauren Menter, Katherine Miller, Jesse Morse-Brady, May Nara, Marcia Newell, Kristy Nielson, Brian O'Neill, Jennifer Oiler, Alicia Palazzolo, Sarah Penn, Whitney Peterson, Collin Prince, Chelse Raymer, Rasha Riad, Vickie Richards, Amy Robohm, Marlene Shaw, Elizabeth DePrince Smith, Shawn Snyder, Sherra St.Clair, Nichole Taylor, Veronica Taylor, Cassie Terfehr, Joslyn Thompson, Kate Thompson, Teresa Thompson, Weldonna Toth, Jennifer Tryder, Candace Tull, Jessica Warren, Cynthia Weber, Leah White, Linda Williams, Wendy Wood Neeson, Wendy Wright

Emeriti:

Pamela D. Larsen, Mary E. Burman, Beverly McDermott, Holly Miller, Mary Anne Purtzer, Kimberly Raksa-Miller, Susan H. Steiner, Beverly Taheri-Kennedy, Fay W. Whitney, Norma Wilkerson

The Fay W. Whitney School of Nursing (FWWSON) has well established B.S.N, M.S., and D.N.P. programs based upon national nursing education standards.

Mission

The FWWSON educates, conducts research and provides service and practice to improve, protect and promote health.

Accreditation and Membership

The baccalaureate and graduate programs are accredited by the Commission on Collegiate Nursing Education (CCNE).

The baccalaureate program (Basic BSN, BRAND) is approved by the Wyoming State Board of Nursing (WSBN). Graduates of the Basic BSN and BRAND options are qualified to apply to take national licensing examination: NCLEX. Graduates of the DNP Program are eligible to take the national certification exams as a nurse practitioner.

Technical Standards Education and Practice

All nursing students must be able to perform the essential functions of a nurse, including observation/communication, physical/motor, intellectual, and behavioral/social. Please refer to the "Technical Standards for Education and Practice and Reasonable Accomodations Policy", including information on reasonable accommodations, on the school's website: http://www.uwyo.edu/nursing/programs/technical-standards-for-admission.html.

Background Check Requirement

Students enrolled in clinical training programs within the College of Health Sciences are placed in educational and clinical settings where highly vulnerable clients such as minor children, individuals with disabilities, and/or the elderly,

are routinely served. These clinical/ practice training sites (including schools, hospitals, pharmacies, and other university sites) routinely require criminal background checks for all students who engage in clinical activities. Therefore, background checks shall be required on all applicants to programs in the College of Health Sciences prior to admission into their prospective program.

Students applying for admission to any nursing program option will be notified by the FWWSON at the time of any admission offer the process for completing the required background check. Previous background checks (e.g. CNA Certification, LPN or RN Licensure) are not acceptable to fulfill this expectation. The results of the background check may determine final admittance to the program.

Students may also be required to update the criminal background check. Each clinical training site will be informed that students have passed a background check prior to placement at that site; some sites may require a more current background check. Clinical agencies may bar a student access to their facility for clinical experiences based on the results of the background check. If faculty and staff are not able to place the student in an alternative setting, the student will not be able to complete the program. In addition, students seeking readmission into the program are required to complete a new background check. Students are responsible for the costs associated with the admission background check and any other background checks that may be required.

Drug Screening Requirement

An acceptable drug screen is required at admission for all students entering clinical programs in the School of Nursing as drug screening is required by most clinical training sites. Students will be notified by the FWWSON should this be an expectation of them for a specific placement after admission. Students may incur charges for this screening and will be notified of such at that time. Drug and/or alcohol testing for any student can be requested by the FWWSON.

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Health Insurance Requirement

Health insurance coverage is a requirement of the Fay W. Whitney School of Nursing for participation in any clinical rotation. It is the responsibility of the student to obtain and maintain coverage for **ALL** clinical rotations. Students will be notified by the FWWSON for the timing for completion of the FWWSON Student Verification of Health Insurance Form.

Undergraduate Study

Bachelor of Science in Nursing (BSN) Program

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

1. Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgement, Patient Centeredness)
2. Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domains 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)
3. Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgement, Safety)
4. Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient Centeredness & Health Promotion)
5. Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)
6. Implement effective partnerships, policy, and advocacy across divers populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)
7. Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, & Health Promotion)

*Domains: AACN Essentials Domains

** CCC: ReNeW Core Curricular Concepts

Bachelor of Science in Nursing (BSN) Program Options

The Fay W. Whitney School of Nursing offers a baccalaureate program with three options to obtain the BSN degree:

1. Basic BSN - a four-year, on-campus BSN option for the student who wishes to become a registered nurse at the baccalaureate level.
2. BRAND (Bachelors Reach for Accelerated Nursing Degree) - an accelerated BSN outreach option for the student who has already achieved a previous non-nursing baccalaureate degree and who wishes to become a registered nurse at the baccalaureate level.
3. BSN Completion - two online BSN options (ReNEW and RN-BSN):
    - ReNEW (Revolutionizing Nursing Education in Wyoming) - an online BSN option for the student or graduate of a Wyoming community college ReNEW nursing program who wishes to become a baccalaureate-prepared nurse.
    - RN-BSN - an online BSN option for the graduate of a non-ReNEW associate degree or diploma nursing program who wishes to become a baccalaureate-prepared nurse.

Please refer to the appropriate BSN program option section that follows below.

Graduate Study

The Fay W. Whitney School of Nursing offers two graduate programs leading to: 1) a Master of Science (M.S.) degree and 2) a Doctor of Nursing Practice (D.N.P.) degree.

Master of Science (MS) Program

The MS program of study is for nurses who desire to become nurse educators or nurse leaders in any academic or health-related setting. The program mission is to prepare transformational learners and leaders to advance nursing education and practice, thus, addressing the complexities in the 21st century healthcare system. Core curricular concepts woven through the curriculum include transformation, communication, interconnected global perspective, outcomes orientation, and rural population health.

Expected Student Learning Outcomes

MS graduates are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings.
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate concepts from nursing and other sciences to address population health.
- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation:
  Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Master of Science (MS) Program Concentrations

The Fay W. Whitney School of Nursing offers a masters program with two concentrations to obtain the MS degree:

1. Nurse Educator - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse educators.

2. Nurse Leader - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse leaders.

Please refer to the MS program section that follows below.

Doctor of Nursing Practice (DNP) Program

The Doctor of Nursing Practice (DNP) degree is the new standard for advanced practice nursing education. The DNP program is open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by an approved nursing education accrediting body.

Expected Student Learning Outcomes

DNP graduates will:

1. engage in evidence-based practice to optimize health outcomes;
2. engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation:
  Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Doctor of Nursing Practice (DNP) Program Concentrations

The Fay W. Whitney School of Nursing offers a doctoral program with two concentrations to obtain the DNP degree:

1. Family Nurse Practitioner (FMY) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural primary care.
2. Psychiatric Mental Health Nurse Practitioner (PSH) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural psychiatric mental health care.

Please refer to the appropriate DNP program concentration section that follows below.

School of Pharmacy

292 Health Sciences, (307) 766-6120
FAX: (307) 766-2953
Web site: www.uwyo.edu/Pharmacy
Dean: Kem Krueger
Associate Dean of Students: Tonja Woods

Associate dean for Academic Affairs: Michelle Hilaire

Professor:

SREEJAYAN NAIR, B.S. College of Pharmaceutical Sciences, Manipol, India 1989; M.S. 1991; Ph.D. 1996; Professor of Pharmacology 2014, 2002.

Associate Professors:

MICHELLE BLAKELY, B.A. University of South Alabama 2005; M.Ed. Auburn University 2008; Ph.D. 2011; Associate Professor of Social and Administrative Pharmacy 2023, 2018.

JARED S. BUSHMAN, B.A. University of Utah 2003; M.S. University of Rochester 2006; Ph.D. 2008; Associate Professor of Pharmaceutical Science 2020, 2014.

GUANGLONG HE, B.S. Anhui Normal University 1986; M.S. Chinese Academy of Sciences 1994; Ph.D. 1997; Associate Professor of Medicinal Chemistry 2019, 2013.

KEM P. KRUEGER, Pharm.D. University of Missouri-Kansas City; Ph.D. University of Arizona 1998; Associate Professor of Social and Administrative Pharmacy 2011, 2005.

TRACY D. MAHVAN, B.S. University of Colorado 1995; Pharm.D. 1998; Associate Professor of Pharmacy Practice 2006, 2000.

RESHMI L. SINGH, B.S. Bombay University 1999; M.S. University of Toledo 2001; Ph.D. University of Minnesota 2005; Associate Professor of Social and Administrative Pharmacy 2019, 2013.

Assistant Professors:

SHEBA DAVID, B. Pharm. Tamilnadu MGR Medical University 1998; Ph.D. Jadavpur University 2007; Assistant Professor of Pharmaceutical Sciences 2022.

NERVANA ELKHADRAGY, B.S. Cairo University 2004; Pharm.D. Purdue University 2008; M.S. 2018; Ph.D. 2020. Assistant Professor of Social and Administrative Pharmacy 2020.

Clinical Professor:

MICHELLE L. HILAIRE, Pharm.D. Duquesne University 2002; Clinical Professor of Pharmacy Practice 2016, 2010, 2004.

JAMIE R. HORNECKER, B.S. Texas Tech University 1999; Pharm.D. University of Wyoming 2003; Clinical Professor of Pharmacy Practice 2012, 2005.

TONJA M. WOODS, Pharm.D. University of Wyoming 2002; Clinical Professor of Pharmacy Practice 2023, 2009, 2003.

Clinical Associate Professors:

JED DOXTATER, B.S. University of Montana 2006; M.S. University of North Dakota 2013; Clinical Associate Professor 2021, 2015.

BECKY S. LINN, B.A. University of Wyoming 1997; Pharm.D. 2002; Clinical Associate Professor 2020.

JANELLE L. KRUEGER, B.S. University of Wyoming 1992; M.S. University of Kansas 1997; Clinical Associate Professor of Pharmacy Practice 2013, 2005.

ALLISON M. MANN, B.S. University of Colorado Boulder 2004; Pharm.D. University of Colorado Denver 2009; Clinical Associate Professor of Pharmacy Practice 2020.

LEENA D. MYRAN, B.S. University of Wyoming 2000; Pharm.D. 2012; Clinical Associate Professor of Pharmacy Practice 2020.

JEREMY VANDIVER, B.A. University of Colorado 2006; Pharm.D. University of Colorado 2010; Clinical Associate Professor 2020.

Clinical Assistant Professors:

JESSICA PAPKE, PharmD, University of Wyoming 2017; Clinical Assistant Professor 2020.

LAVINIA SALAMA, Pharm.D, Albany College of Pharmacy and Health Sciences 2020; Clinical Assistant Professor Pharmacy Practice 2022.

Associate Lecturers:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assocaite Lecturer of Medical Laboratory Science 2021, 2016.

Senior Lecturer:

ANTOINETTE K. BROWN, B.S. University of Wyoming 1992; Senior Lecturer 2024.

DAVID C. BRUCH, B.S. University of Wyoming 1998; Pharm.D. 2010; Senior Lecturer 2023.

Drug Information Director:

MELISSA L. HUNTER, B.S. University of Wyoming 2000; Pharm.D. 2004; Senior Research Scientist 2013, 2007.

Director of Postgraduate Education:

Elliott Sogol, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

Professors Emeriti:

Emery Brunett, Ph.D.
Bruce W. Culver, Ph.D.

E. Kurt Dolence, Ph.D
Linda Gore Martin, Pharm.D.
Kenneth F. Nelson, Ph.D.
Robert B. Nelson, Ph.D.
Robert D. Scalley, Pharm.D.
Beverly, Sullivan, Pharm.D.
M. Glaucia Teixeira, Ph.D.
Weeranuj Yamreudeewong, Pharm.D.

Deans Emeriti:

John H. Vandel, B.S. Pharmacy
Linda Gore Martin, Pharm.D.

Vision, Mission and Values

Vision

The University of Wyoming School of Pharmacy (UWSOP) is nationally recognized for its distinguished and collaborative teaching, research, pharmacy practice, and its entrepreneurial spirit.

Our graduates are highly skilled health professionals and leaders. Our graduates thrive and innovate in diverse and dynamic environments.

Mission

The University of Wyoming School of Pharmacy (UWSOP) advances the holistic development of our learners, preparing them to embrace change and positively impact the health and well-being of the communities that they serve. We engage in interdisciplinary teaching, research, practice, and service that results in meaningful innovations in healthcare, and improves the health and wellness of Wyoming, national, and global communities.

Statement of Values

The University of Wyoming School of Pharmacy community is committed to supporting and promoting individual and collective excellence in teaching, research, service, and pharmacy practice.

We value learning, collaboration, responsibility, compassion, respect, integrity, diversity, equity, and inclusion in all endeavors.

Graduate Expectations

Our graduates will be recognized and respected for:

- Leading positive change in the communities, organizations, industries, and professions that they serve
- Engaging in collaborative opportunities across disciplines and professions
- Providing evidence-based, empathetic, patient-centered care
- Thinking critically, creatively, ethically, and pragmatically
- Thriving and innovating in dynamic, diverse, and digital environments
- Ability to adapt in an ever-changing environment
- Dedication to excellence and integrity
- Communicating effectively across a wide range of audiences
- Embracing an entrepreneurial spirit

Learning Outcomes

The University of Wyoming adheres to the American Association of Colleges of Pharmacy Curricular Outcomes and Entrustable Professional Activities (COEPA) 2022. This multipage document (and its supplements) can be accessed at https://www.aacp.org/resource/educational-outcomes-and-epas. The school has outlined student/curriculum learning outcomes; these are available on the school website.

Student/Faculty Relations

The faculty and staff at the School of Pharmacy (SOP) treat students as adults and expect appropriate behavior as beginning professionals. The School of Pharmacy recognizes that the profession of pharmacy demands of its members the utmost degree of professional competence, ethical behavior, and integrity. Upon enrolling at the University of Wyoming SOP and at the start of each academic year, all students will sign a pledge acknowledging that they have received and read the current Honor Code and that they have made a personal commitment to uphold the code and abide by its principles. Similarly, the School of Pharmacy Professionalism Policy for faculty and staff is built on the foundation of respect for others, personal responsibility, the creation and maintenance of trust, and honesty and truthfulness. The administration, faculty, staff, students, and alumni of the School of Pharmacy at the University of Wyoming should strive to set an example of ethical leadership and professional behavior as those traits are essential for good social and business interactions.

Accreditation and Membership

In Wyoming, as in most other states, one requirement for registration as a pharmacist is graduation from an accredited entry-level Pharm.D. program. The Accreditation Council for Pharmacy Education (ACPE), the national accrediting agency for pharmacy, accredits pharmacy degree programs.

The Doctor of Pharmacy program at UW was most recently accredited in 2020 following an on-site evaluation by the ACPE in October 2021. Verification of current accreditation status may be made by: a) contacting the Dean's Office, School of Pharmacy; b) connecting to www.uwyo.edu/pharmacy/; c) contacting the Accreditation Council for

Pharmacy Education (190 South LaSalle Street, suite 2850 Chicago IL 60603, (312) 664-3575; cinfo@acpe-accredit.org) or d) by checking the latest Annual Directory of Accredited Professional Programs published by ACPE.

The school is a member of the American Association of Colleges of Pharmacy and adheres to its educational standards.

Pre-Pharmacy Program and Requirements

Applicants for the Pharm.D. program must complete prepharmacy requirements before they can be admitted. Usually, two academic years totaling 67 credit hours (which may include summer and J-Term semesters) is required to complete prepharmacy requirements.

All prepharmacy coursework must be completed by the end of the spring semester prior to matriculation in the professional program.

Graduates of fully accredited high schools may be admitted to the prepharmacy program with a math placement score of 3 or an ACT math score of 23.

Early Assurance Program (EAP): Students are accepted to the EAP program based on their high school GPA and ACT/SAT scores. High School students can apply to the Pharm.D. program as they are applying for admission to the University of Wyoming as first-year students.

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

- LIFE 1010 - General Biology Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- OR

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

Doctor of Pharmacy (Pharm.D.) Program

Admission

Admission to the Pharm.D. degree program is limited to 52 students per year and is highly competitive. Admission is granted by the School of Pharmacy Dean upon the advice of the School of Pharmacy Admissions Committee. Students can apply to the Pharm.D. program as freshman via the Pharmacy Early Assurance program. All students applying to the UW School of Pharmacy must use the PharmCAS application (www.pharmcas.org) process. All materials are submitted to UW using this service. The School of Pharmacy requires no supplemental application. Students granted admission to the Pharm.D. program will have to pay a one-time, non-refundable, seat fee to guarantee their placement into the entering class. In addition students will be required to complete any immunizations necessary for experiential rotations. As part of a College of Health Sciences requirement students are also expected to complete and pass a background check prior to final admission to the professional program.

Students must meet, with or without accommodation, specified physical requirements. The School of Pharmacy's Technical Standards can be found at http://www.uwyo.edu/pharmacy/_files/documents/admin/uwsop-technical-stds-3-2013.pdf.

The School of Pharmacy provides opportunities to ensure that our students have co-curricular experiences in our didactic program. Providing co-curricular options allows students to choose activities that interest them and will allow them to grow as future health professionals. A portion of co-curricular activities throughout the degree program will be required and assessed.

Students at the University of Wyoming SOP are immersed in interprofessional education opportunities during all years of the Pharm.D. program. Interprofessional education provides experiences for Pharm.D. students to collaborate and share knowledge with learners in other health sciences disciplines, which fosters readiness for working in team-based care environments in their future careers.

Program of Study

Requirements for Graduation

The degree of Doctor of Pharmacy (Pharm.D.) is granted upon satisfactory completion of 146 hours in the Pharm.D. curriculum in accordance to the school's academic standards and the fulfillment of the general university requirements. The School of Pharmacy does not accept transfer students into the professional pharmacy program.

Graduation with Honors

The University of Wyoming School of Pharmacy is authorized to grant honors for academic excellence. A Doctor of Pharmacy with honors designation is awarded by the University of Wyoming to students who graduate with exceptional scholarship in Pharmacy.

Exceptional scholarship in pharmacy is defined as a student who is on track to graduate with their class from the University of Wyoming School of Pharmacy and is in the top 5% of their class based on their pharmacy GPA (as assessed at the end of the fall semester of the P4 year). The Pharmacy GPA is calculated on the basis of required professional pharmacy curriculum coursework and excludes required or selected elective hours. The honors distinction must be approved by a School of Pharmacy faculty vote.

Academic Honesty and Professional Conduct

Students admitted to the Pharm.D. program are required to participate and sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Pharm.D. program.

Academic Standards for Progression and Graduation

The course of study in the School of Pharmacy (SOP) is four academic years leading to a Doctor of Pharmacy degree (Pharm.D). The required Pharm.D. coursework is organized in a prescribed, non-negotiable, sequential manner. All students have a P-designation identifying their year in the program (P1, P2, P3, P4). Required pharmacy courses (PHCY courses) from any national or international pharmacy programs will not be applied to the UW Pharm.D degree. The student may petition that coursework to be applied to the program but must replace those credit hours with additional elective courses. Courses taken as S/U, including electives, are usually considered unacceptable in fulfilling program requirements. Auditing courses for the PharmD degree is not allowed.

The academic standards herein described are expected to be followed by all students admitted to the Pharm.D. program. Any violation will constitute grounds for probation or termination from the Pharm.D. program and will delay progression towards advanced coursework. Probation is a period of time in which the student is allowed to continue in the program under supervision. Students that do not meet academic standards and are placed on probation will have to submit a petition that includes an individualized plan of study for the next semester. This plan must be developed by the student in agreement with and signed by the academic advisor. The petition will be reviewed by the Student Affairs Committee (SAC), which will send a recommendation to the Dean for approval or denial. A leave of absence may be necessary in cases where poor academic performance is due to a medical or personal hardship. The student may appeal sanctions related to violations of the academic standards and decisions that result in probation and termination in the program. Appeals start at the School level, followed by College and University levels, according to policy.

Masters of Health Service Administration (MSHSA) Students will follow the Admission Guidelines and Academic Progression information listed on the following website for Graduate Students: Graduate Student Regulations and Policies

Academic Standards

1. A grade of D or lower, or course withdrawal, in any required course of the Pharm.D. program constitutes failure to progress toward the Pharm.D. degree and result in probation.
2. A grade of D or lower, in any elective course of the pharmacy program constitutes failure to progress toward the Pharm.D degree and result in probation.
3. Students must earn a GPA of 2.000 or better in both University coursework and pharmacy program courses each semester and cumulatively.
4. Students must be considered full time with coursework applicable to the pharmacy degree during each semester while in good standing.
5. Incomplete coursework must be completed prior to progression into the next academic semester and will halt progression in experiential coursework.
6. Students who earn a D or lower in any experiential coursework will have their rotation sequence halted.
7. A course taken in the professional pharmacy program course can be repeated only once.
8. A maximum of three required courses are allowed to be repeated during the degree program.
9. Failure to meet any academic standards for two semesters (not necessarily consecutive) in didactic and/or experiential coursework results in automatic termination from the Pharm.D. program.
10. Failure of two experiential courses, not necessarily consecutive, results in termination from the Pharm.D. program.

Elective Credits Policy

The purpose of electives at the School of Pharmacy (SOP) is to complement the pharmacy curriculum, expand knowledge within a specific pharmacy discipline and to ensure completion of the general liberal arts education of the University of Wyoming. Therefore, the following policies have been approved by the faculty for the Doctor of Pharmacy program (thereafter, Program).

As published in the University Catalog and SOP students are required to complete a minimum number of electives, specific for the student's year of matriculation into the Program. This number may vary and may be modified as adjustments are made to the professional curriculum to comply with accreditation standards. Students will be made aware of this number during initial orientation into the Program and kept informed of any changes during their stay in the academic program.

Students must take elective courses to satisfy first the requirements of the University Studies Program (thereafter, USP) and then complete the remaining required electives credits as general elective coursework (Program-approved required number of elective hours).

- Students are required to complete all USP requirements even if they exceed the minimum number of elective hours initially defined in their Program in order to graduate from UW.
- Transfer or online courses from other accredited institutions may be honored as elective credits toward the Program. Students are solely responsible to have all transcripts from other schools sent to the University and make sure that the Director of Student Services and advisors are aware of any transfer work in the Pharm.D. program.
- All required hours (including electives) must be completed by students before progressing into the P4 rotation year. Students will not be allowed to progress toward the 4th year rotations if university studies requirements were not fulfilled.
- Students shall not take electives as Satisfactory/ Unsatisfactory (S/U) credit.
- All courses taken in the preprofessional program or to fulfill requirements in a previous degree cannot be retaken to count as elective hours in the Program. In addition, students cannot use previously taken credit (prior to the professional program) as elective credit in the professional program.
- Credit by exam through the Foreign Languages Dept. will not be accepted as fulfillment of elective requirements in the Program. However, it is a student's right to earn credit by exam for Wyoming History and Government, while receiving elective credits toward the Program and fulfilling USP requirements.

- For procedures and handling of all exceptions to these policies, the students should consult the student handbook, the pharmacy student Share Point site, the SOP website, or check with the Director of Pharmacy Student Services or the Associate Dean of Students.

Curriculum

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3
- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1
- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0
- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2
- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1

- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
-

- PHCY 6471 - Internal Medicine II Credits: 4
- OR

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4
-

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4
- Students complete 4 sections of PHCY 6465, 4 credits each.

- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in

the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)
-

- Students need to take one:

- PHCY 6471 - Internal Medicine II Credits: 4
- or

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Graduate Study

Master of Business Administration/Doctor of Pharmacy (M.B.A./Pharm.D.) dual degree.

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree.

Masters in Health Services Administration

292 Health Sciences, (307)766-6120

Website: https://uwyohealthadminms.org/

Director of Postgraduate Education: Elliott Sogol

Faculty

DAVID B. BRUSHWOOD, B.S.Pharm. University of Kansas 1975; J.D. University of Kansas 1981.

ELLIOTT SOGOL, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

The School of Pharmacy offers the Master of Science in Health Services Administration (MSHSA).

This degree is geared toward new and mid-career practitioners including pharmacists, nurses, physicians, social workers, and other health care professionals who want to become department directors, patient safety coordinators and/or directors, regulatory compliance officers, clinical research associates, health outcomes researchers or take on leadership roles as advanced practice practitioners.

The program also benefits health care workers in fields such as management positions, pharmaceutical sales representatives, medical science liaisons, and pharmacy technician educators as well as new clinical faculty at newly established pharmacy colleges.

Available nationwide the master's program is delivered via a mix of online self-study and online project-based coursework.

The program can be completed in two years of part-time study. Students are requested to travel to the UW Laramie campus for two weekend seminars during the two-year program (based on travel restrictions during the pandemic this course was held online). Graduates will be expected to complete 30 credit hours of coursework and pass a comprehensive final exam. Coursework will be completed over five consecutive semesters however students can take up to 6 years to complete the program.

A prospective student should have earned at least a bachelor's degree from a regionally accredited institution.

Academic Honesty and Professional Conduct

Students admitted to the Master of Science in Health Services Administration program are required to sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Master of Science in Health Services Administration program.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration

o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership
o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2
- Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- PHCY 5XXX The Chemistry of Poisonings 2 Credits

  PHCY 5XXX The Process of Forensic Science 2 Credits

  Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2
- Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5XXX Biomedical Ethics 3 Credits

  PHCY 5XXX Clinical Research Regulation 2 Credits

  Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Cybersecurity 2 Credits

  PHCY 5XXX HIPPA Compliance 2 Credits

  PHCY 5XXX Disaster Management 2 Credits

  Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Biomedical Ethics 3 Credits

  PHCY 5XXX HIPAA Compliance 2 Credits

  PHCY 5XXX Clinical Research Regulation 2 Credits

  Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2
- Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Information Design and Analysis 2 Credits

  PHCY 5XXX Healthcare Information Systems 2 Credits

  PHCY 5XXX Information Managment 2 Credits

  Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Professional Writing in Healthcare 2 Credits

  PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits

  PHCY 5XXX The Healthcare Message 2 Credits

  Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753
FAX: (307) 268-2416
Web site: www.uwyo.edu/pharmacy/mls-program/index.html
Director: Jed M. Doxtater, MS MLS (ASCP)^{CM}

Associate Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Associate Clinical Faculty of Medical Laboratory Science 2021, 2015.

Associate Lecturer

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Associate Lecturer of Medical Laboratory Science, 2021, 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

1. Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.
2. Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.
3. Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.
4. Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.
5. Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.
6. Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.
7. Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.
8. Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

- Application of safety and governmental regulations and standards as applied to clinical laboratory science;
- Principles and practices of professional conduct and the significance of continuing professional development;
- Communications sufficient to serve the needs of patients, the public and members of the health care team;
- Principles and practices of administration and supervision as applied to clinical laboratory science;
- Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- Principles and practices of clinical study design, implementation and dissemination of results;
- Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and biohazard and safety.

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program them become eligible to sit for national certification examinations for the profession.

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs.

Contract information:

National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119

http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

- Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.
- Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.
- Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.
- Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory Science degree. See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Students may enter the MLS professional program in the fall or spring semester of their junior year. Application for the program must be submitted to the MLS program director before finals week of the first semester the student has declared the MLS major and is enrolled in a MLS course.

Prior to participating in the enrichment experiences, students will be subject to that agency's requirements for a background check, drug testing and/or drug abuse prevention policies. Students are then subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background check should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo). The Casper College MLT background check is a valid substitute if final semester of MLS program falls within 1 year of check.

After completion and submission of the program application, the student must schedule an interview with the program director for an evaluation for acceptance to the MLS program. Interviews must be completed before the student enrolls in the succeeding semester of coursework. It is the students' responsibility to complete and submit applications, and to schedule an interview with the MLS program director by the due dates.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

The MLS program will provide documentation requirements, as each site may have different requirements for participation (e.g. vaccination records, HIPPA training, safety training, background check/drug screen etc.). If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. It will be the responsibility

of the student to arrange the experience with the appropriate site personnel/HR, and program director to ensure all required documentation is provided.

Liability insurance will be required for students entering their senior year coursework. Liability insurance is provided through the University of Wyoming at a cost of $13.00/year to the student.

Health Requirements: The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee. Other health records may be required to participate in enrichment activities including MMR, Tetanus, drug screen, and background check/drug screen.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

- Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.
- Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.
- Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.
- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

- Move freely and safely about a laboratory.
- Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.
- Travel to numerous clinical laboratory sites for practical experience.
- Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.
- Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.
- Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.
- Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.
- Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

- Read and comprehend technical and professional materials.
- Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.
- Clearly instruct patients prior to specimen collection.

- Effectively, confidentially and sensitively converse with patients regarding laboratory tests.
- Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.
- Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

- Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.
- Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.
- Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.
- Be flexible and creative and adapt to professional and technical change.
- Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
- Adapt to working with unpleasant biologicals.
- Support and promote the activities of fellow students and of health care professionals.
- Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.
- Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4
- **OR** MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)

- SOC 1000 - Sociological Principles Credits: 3 **OR** ANTH 1200 Introduction to Cultural Anthropology
- **OR** PSYC 1000

- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)
- OR

- COMM 2010 - Public Speaking Credits: 3
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)
- OR

- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3
- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2

- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2
- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1
- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4
- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- **Take a minimum of 8 credits from the following courses:**

- LIFE 3050 - Genetics Credits: 4
- OR

- LIFE 3600 - Cell Biology Credits: 4
- OR

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- OR

- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
- OR

- PHCY 4441 - Intro Health Institution Leadership Credits: 3
- OR

  Course Approved by Program Director

- STAT 2050 - Fundamentals of Statistics Credits: 4
- **Take a minimum of 3 credits from the following courses:**

- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- OR

- PSYC 4300 - Adolescent Development Credits: 3
- OR

- SOC 3000 - Social Change Credits: 3
- OR

- SOC 3550 - Medical Sociology Credits: 3
- OR

  Course approved by Program Director

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2
- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)
- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum- Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

Division of Social Work

Health Sciences Building, (307) 766-6112
FAX: (307) 766-6839
Web site: www.uwyo.edu/socialwork
Division of Social Work Director: Valerie Thompson-Ebanks, Ph.D., MSW

Associate Professors:

NEELY MAHAPATRA, B.Sc. Utka l University, India 1991; M.Sc. 1993; M.S.S.W. University of Texas-Austin 2003; Ph.D. 2008; Associate Professor of Social Work 2016.

VALERIE THOMPSON-EBANKS, B.Sc. University of the West Indies 2002; M.S.W. 2007; Ph.D. Colorado State University 2012; Associate Professor of Social Work 2018.

Assistant Professors:

MARGARET HOLLAND, B.S.W. Mississippi College 2012; M.S.W. University of South Carolina 2013; Ph.D. Florida State University 2021; Assistant Professor of Social Work 2022.

SANDY LEOTTI, B.A. Prescott College 2002; M.S.W. University of Montana 2006; Ph.D. Portland State University 2019; Assistant Professor of Social Work 2019.

SUKYUNG YOON, B.A. Chung-Ang University 2002; M.S.W. Yonsei University 2008; Ph.D. University of Tennessee 2019; Assistant Professor of Social Work 2019.

Assistant Lecturers:

BILLIE CHAPMAN, B.A. University of Wyoming 2005; M.S.W. 2008; Assistant Lecturer of Social Work 2018.

BETHANY CUTTS, B.S.W. University of Wyoming 2003; M.S.W. 2005; Assistant Lecturer of Social Work 2023.

SARAH S. GREEN, B.A. University of Wyoming 2015; M.S.W. 2019; Assistant Lecturer 2021.

CHRISTINE VENCILL, B.S.W. University of Wyoming 2013; M.S.W. 2016; Assistant Lecturer of Social Work 2023.

Social workers are uniquely qualified to help people in their own environments by looking at different aspects of their lives and cultures. We work to ensure the client's personal well-being, prevent crises, counsel individuals, support families, and strengthen communities. We make sure people get the help they need, with the best resources available.

For more than 100 years, social workers have cared for people in every stage of life. Social workers help others overcome life's most difficult challenges and manage the troubles of everyday living, including the troubles that exist due to poverty, stress, addiction, abuse, unemployment, mental illness, family change, and social violence. Social workers advocate for social justice.

Undergraduate Study

The Division of Social Work prepares students for entry-level generalist social work practice. Two locations offer the social work program: the Laramie campus and the University of Wyoming-Casper campus. Graduates receive a Bachelor of Social Work (BSW) and are prepared to work as generalist social work practitioners with individuals, groups, families, organizations, communities, and institutions to achieve more effective and efficient social functioning.

Our program is accredited by the Council on Social Work Education. The curriculum is designed to help students acquire important knowledge and skills in the areas of values and ethics, diversity, social and economic justice, human behavior and the social environment, social welfare policy and services, social work practice, and research. A competency-based curriculum prepares students to meet an "initial level" of competence in nine core areas (CSWE, 2015). Students also select elective courses in areas such as aging, child and adolescent services, health and mental health, and disability services. The program culminates in a 450-hour supervised field practicum, which allows students to work as social workers in one of Wyoming's many human service agencies.

Social Work Major

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Application for Admitted Major status are due in the middle of the Spring semester or in the middle of the Fall semester. Students should apply during the semester they are completing all social work prerequisite courses. Acceptance to Admitted Major (professional degree program) is competitive and requires an application. Please see application requirements on the Division of Social Work website. Students accepted into the professional degree program are expected to complete their degree in a timely manner. Students who have not completed social work classes for one year or more must reapply for Admitted Major and submit a plan for readiness to continue in the social work degree program. A plan may include, but is not limited to, repeating or auditing a course taken at an earlier point in the student's academic experience, completing an independent study that may provide updated social work content for the student, demonstrating knowledge or practice skills. Readmission is not guaranteed.

Criteria for Admission as an Admitted Major

The admissions process is competitive. Students must meet the following minimum criteria to be considered for Admitted Major status.

1. Students must earn a minimum grade point average (GPA) of 2.50000 on all UW coursework as well as all coursework transferred into the University of Wyoming from other acadmemic institutions.

2. Complete the following prerequisites: a. SOC 1000 b. PSYC 1000 c. POLS 1000 d. SOWK 2000 e. Human Biology (PSYC 2080 or KIN/ZOO 2040) f. STAT 2070 g. ECON 1010

3. Students must earn a grade of C or higher in all SOWK prerequisite classes.

4. Complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher.

5. Students must have at least 60 credit hours at UW or transferrable to UW.

6. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

7. Students cannot exhibit behavior that will impinge on the student's present or future ability to fulfill professional responsibilities as a social work professional.

8. All students seeking admission to programs in the College of Health Sciences are required to undergo a background check as specified by college policy. Criminal convictions may result in rejection of the candidate for admission to Admitted Major.

9. Students must submit an application and an application fee. (See UW Fee Book)

10. Applicants to the social work program cannot receive credit for life experience.

Requirements for Admitted Majors

Once admitted, social work students must:

1. Achieve a C or better in all social work courses, including six hours of required social work electives.

2. Social work classes are offered and must be completed in sequential order.

3. Maintain a 2.500 or above GPA overall every semester after admittance to Admitted Major.

4. Maintain a 2.500 or above GPA overall in all social work course work every semester after admittance to Admitted Major.

5. Registration is restricted and students must meet with their advisor each semester for enrollment.

6. Complete SOWK 4990 with a satisfactory grade.

7. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

Individuals failing to meet any of the above requirements will be reviewed by faculty and one of the following actions may be taken: remediation, probation, sanction, and/or dismissal from the program. Because many social work courses have prerequisite requirements, receiving a grade lower than a C in a social work course may prevent the individual from moving forward in the social work program.

BSW Field Practicum

All students complete a 450-hour (10 credit hours) field practicum experience in a community-based social agency or social program. Field practicum sites exist throughout the state of Wyoming and students may be placed outside Laramie. Students apply for this program the semester before their actual placement. Students must complete a Field Placement Application and meet with the Field Coordinator prior to determining a practicum site (please review Field Practicum Manual). Background checks and drug screenings may be required by some agencies even though the College of Health Sciences has received a background check during admission to the major.

For the practicum, a grade of U is interpreted as performing below expectations and will not be considered satisfactory completion of the practicum, hence of the BSW program. Based on input from the student, the field instructor, and the faculty liaison during the field evaluation, the field coordinator will determine what remediation would be required. The plan will clarify course objectives and professional skills upon which the student needs to improve. A student wishing to continue in the program would need to reapply for a field placement. Upon the field committee's approval of the request for placement, the student may then repeat the practicum experience. Consistent with University policy, the most recent grade would be the grade calculated into the GPA. The grade of U is interpreted as not meeting minimal requirements of the course; failure to complete the minimum clock hours in the field placement; failure to complete written assignments in a satisfactory manner; violation of one or more of the tenets of the NASW Code of Ethics (see Appendix B and Termination of Practicum section in the practicum manual); and/or failure to withdraw formally or to terminate the course. A student receiving a U in the practicum will be automatically dismissed from the BSW program with no opportunity to reapply or re-enter. Grades and dismissals may be appealed. (See most current BSW Student Handbook for appeal procedures.)

Requirements for Graduation

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only. USP H and PN courses must be taken outside the major subject but can be cross listed with the major.

BSW Curriculum

Social Work B.S.W. degree plan

Graduate Study

The Master of Social Work (MSW) prepares professional social workers for advanced-level social work practice and leadership positions in frontier and rural human service environments. The Advanced Generalist MSW program is accredited by the Council on Social Work Education. The MSW program graduates practitioners who work within and negotiate complex multi-dimensional problem settings for both clients and practitioners while embracing the profession's values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, competence, human rights, and scientific inquiry. The MSW full-time, hybrid program, based in Laramie, WY, utilizes a variety of delivery methods to accommodate Standard (2 years) and Advanced Generalist (1 year) students. The MSW part-time program option, based in Casper, WY, offers the same curriculum and model delivery for Standard (3 years) and Advanced Generalist (2 years) students, but provides for greater flexibility of schedule.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program level. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum. Students who have already obtained the BSW degree may apply for the Advanced Generalist MSW program.

Master of Social Work Field Practicum

All students, regardless of status, participate in field practicum experiences. New students submit an initial application for placement, time depending on whether the student is in the full-time or part-time program. Foundation students must complete 900 practicum hours over the course of the Standard curriculum. Advanced Standing students must complete 500 hours over the course of the Advanced Generalist curriculum. All students in practicum must take a corresponding field seminar class.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy. Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

Wyoming School Social Work Certification

The Division offers the necessary requirements to obtain Wyoming School Social Work certification. Students in the last year of the MSW Program need to successfully complete SOWK 5810 Working with Children and Families in the Schools and complete their field placement within an approved school setting. Upon graduation, students must apply to the Wyoming Department of Education to obtain formal certification. For the most current certification information go to the PTSB website http://wyomingptsb.com/

Graduate Admissions Requirements

The Division of Social Work's Graduate Admissions Committee bases recommendations on review of all application materials (applicant's grades, personal essay, analytic essay, professional references, and any related social service experience) as they reflect the applicant's commitment to social work, social and economic justice, values and ethics of the social work profession, and applicant's potential as a graduate student, social work practitioner, colleague and leader in the social work field. The Committee also looks for the intangible qualities that an applicant brings to the classroom and campus environment and to professional social work.

Once the committee recommends admission of an applicant, the Office of Admissions in Academic Affairs makes the final decision of admission.

Requirements for the Standard MSW Program

• A bachelor's degree with a liberal arts foundation.

• An undergraduate cumulative grade point average (GPA) of 3.000 or above on a 4-point scale.

Requirements for the Advanced Standing MSW Program

• A bachelor's degree in Social Work from a Council on Social Work Education accredited social work program;

• An undergraduate social work GPA of 3.250 or above;

• An overall undergraduate GPA of 3.000 or above;

• Received a B or better and/or a Satisfactory grade in BSW Field Education Practicum.

*International students have special requirements for admission to UW. All are encouraged to contact the International Students and Scholars Office for details before applying.

All Applicants

What Application Reviewers Assess When Reading Personal & Analytic Essays

For both the personal essay and the analytic essay, the reviewers will:

- Assess students' preparedness for graduate studies.
- Confirm adherence to the formatting instructions for each document.
- Validate the use of credible sources cited in the essay that support students' analysis.
- Appraise grammar and spelling skills.
- Evaluate students' ability to think critically and respond in-depth.
- Assess students' ability to write a clear and well-organized response.
- Verify that all questions posed have been answered.

Reviewers will read personal essays to assess whether students have:

- Expanded beyond the desire to "help people."
- Demonstrated critical self-reflection.
- Shown knowledge and understanding of the social work profession.

Reviewers will read analytic essays to assess that students have:

- Described a social justice issue and its importance fully and clearly.
- Presented a well-thought-out approach to create change around the issue.

All applicants meeting minimum criteria will be considered for admission. Applicants will be required to complete a criminal background check through College of Health Sciences.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program phase. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum in the second year. Students who have already obtained the BSW degree may apply for Advanced Generalist in the MSW program. These students complete only the second-year courses.

Master of Social Work Field Practicum

All students, regardless of status, participate in a field practicum experience, starting in the fall semester. New students submit an initial application for placement upon acceptance into the program.

Foundation students will complete 900 hours in practicum over the course of their two years of study, 400 and 500 hours respectively. Advanced Standing students will complete 500 hours in their one year of study. All students in practicum will take a corresponding field seminar class each semester.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy.

Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

Wyoming Institute for Disabilities (WIND)

147 Health Sciences Building, (307) 766-2761
FAX: (307) 766-2763
Web site: www.uwyo.edu/wind
Interim Executive Director: Michelle Jarman, Ph.D.

Professor, Interim Executive Director:

MICHELLE JARMAN, B.A. University of California at Berkeley 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois at Chicago 2006; Professor of Disability Studies 2014, 2007.

Associate UCEDD Directors:

ERIC J. MOODY, B.S. Pacific Lutheran University 1998; M.A. University of Denver 2004; Ph.D. 2007; Postdoc University of Colorado School of Medicine 2011; Research Professor, Director of Research and Evaluation 2018.

CANYON HARDESTY, B.S. University of Wyoming 2004; M.S. 2007; M.S. Creighton University 2011; Associate Lecturer 2018, 2013.

Senior Lecturer:

SANDRA ROOT-ELLEDGE, B.S. University of Wyoming 2001; M.A. 2003; Senior Lecturer, 2018, 2009, 2004.

Associate Lecturer:

TERRI WOFFORD, B.S. University of Central Florida 1994; M.S. East Tennessee State University 1998; Associate Lecturer 2020.

The Wyoming Institute for Disabilities (WIND) is part of a national network of University Centers of Excellence in Developmental Disabilities Education, Research and Service (UCEDD). These centers provide a broad array of interdisciplinary academic, clinical, and research experiences of people with disabilities-particularly developmental disabilities. A wide variety of disciplines contribute to the study of disabilities.

WIND offers a Disability Studies Minor which investigates broad questions about the nature, meanings, and consequences of disability from interrelated social, historical, cultural, and political perspectives. The undergraduate minor in disability studies examines disability issues from multiple lenses, and draws specifically from social sciences, humanities, and health sciences.

Disability studies has an ethical commitment to place the interests and voices of people with disabilities at the center of our curricula and training activities. The minor balances theoretical exploration with practical application, and provides students with a vibrant understanding of disability history, cultural representation, policy concerns, and current debates. Ultimately, students in the minor will work closely with people with disabilities, and gain the skills and perspectives to participate in unique disability research and advocacy.

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753

FAX: (307) 268-2416

Web site: www.uwyo.edu/pharmacy/mlsprogram/index.html

Director: Jed M. Doxtater, MS MLS (ASCP)

Assistant Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Assistant Clinical Faculty of Medical Laboratory Science 2015.

Assistant Lecturer:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assistant Lecturer of Medical Laboratory Science 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

1. Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.

2. Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.

3. Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.

4. Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.

5. Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.

6. Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.

7. Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.

8. Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

• Application of safety and governmental regulations and standards as applied to clinical laboratory science;

• Principles and practices of professional conduct and the significance of continuing professional development;

• Communications sufficient to serve the needs of patients, the public and members of the health care team;

• Principles and practices of administration and supervision as applied to clinical laboratory science;

• Educational methodologies and terminology sufficient to train/ educate users and providers of laboratory services;

• Principles and practices of clinical study design, implementation and dissemination of results;

• Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and

biohazard and safety

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program they become eligible to sit for national certification examinations for the profession. The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs. *Contract information:* National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119 http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

• Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.

• Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.

• Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.

• Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory

Science degree.

See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Upon completion of the prerequisite requirements of the program, students may apply to the professional program in the fall semester of their senior year. Applications for the program must be submitted to the MLS program director before finals week of the fall semester prior to entering the professional program Advanced Clinical Practicum (ACP) coursework. It is the students' responsibility to complete and submit applications by the defined due date.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

Prior to participating in the enrichment experience, students may be subjected to that agency's requirements for HIPAA training, a background check, drug testing and/or drug abuse prevention policies. Students may be subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background checks should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo).

Students must meet the vaccination and health insurance requirements of the university. Vaccinations are available through the county health department or through student health on the UW-C campus, and liability health insurance is available through the University of Wyoming. Current enrichment site affiliates do not require a background check, drug screen or proof of vaccination, as the university vaccination requirements exceed that of the facility. If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. This notification should occur well in advance to entering the professional program. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR and program director, to ensure all required documentation is provided. The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

• Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.

• Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.

• Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.

• Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

• Move freely and safely about a laboratory.

• Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.

• Travel to numerous clinical laboratory sites for practical experience. • Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.

• Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.

• Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.

• Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.

• Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

• Read and comprehend technical and professional materials.

• Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.

• Clearly instruct patients prior to specimen collection.

• Effectively, confidentially and sensitively converse with patients regarding laboratory tests.

• Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.

• Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

• Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.

• Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.

• Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.

• Be flexible and creative and adapt to professional and technical change.

• Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.

• Adapt to working with unpleasant biologicals.

• Support and promote the activities of fellow students and of health care professionals.

• Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.

• Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

Requirements for the Bachelor of Science in Medical Laboratory Science

Medical Laboratory Science, B.S. degree plan

Dental Hygiene

Health Sciences Advising Office

Craig Vaske, Manager

Phone: (307) 766-3878

Email: hsadvise@uwyo.edu

Web site: http://www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html

The University of Wyoming and Sheridan College offer a cooperative program of dental hygiene education which, when completed, results in two degrees. An Associate of Applied Science degree in dental hygiene is awarded by Sheridan College following completion of the prerequisites and dental hygiene prescribed study. An optional Bachelor of Science in Dental Hygiene (BSDH) degree is awarded by the University of Wyoming following completion of the Associate of Applied Science in dental hygiene, the University Studies Program, and other requirements of the University of Wyoming, for a total of 120 credit hours including 42 upper level hours, 30 of which must be from the University of Wyoming. See www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html.

The American Dental Association has awarded full accreditation to the Associate of Applied Science degree in dental hygiene at Sheridan College. Graduates are eligible to take the National Board of Dental Hygiene exam, as well as regional and state exams for licensure, as registered dental hygienists.

Applicants should visit www.sheridan.edu/academics/programs-a-z/dental-hygiene for specific prerequisites and application materials. Applications are due to Sheridan College prior to February 15 of the year they wish to enter the program. Class sizes are limited. Admission is contingent upon successful completion of a background check.

In order to be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed on Dental Hygiene,

B.S.D.H. Courses in anatomy, physiology, and microbiology must be current within five years at the time of application to the Dental Hygiene professional program. Students must also complete a minimum of 20 hours of dental hygiene observation prior to application. Completion of the prerequisite courses and observation does not guarantee admission to the professional program. If admitted, students complete their coursework in Sheridan, Wyoming.

Prospective applicants can take prerequisite courses at any accredited higher education institution. To view a list of prerequisites, see the degree program page in this catalog. Students who are completing prerequisite courses at the University of Wyoming are advised by the Health Sciences Advising Office (hsadvise@uwyo.edu). These students apply to UW as "Pre-Dental Hygiene" students.

NOTE: This major is not appropriate for students preparing to apply to dental school.

Learning Outcomes

The primary objective of the program is to assure that graduates have knowledge and abilities necessary to successfully practice dental hygiene.

School of Graduate Education Interdisciplinary Programs

Biomedical Sciences, Ph.D. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website http://www.uwyo.edu/biomedphd/
Email: bms@uwyo.edu

Program Director: Sreejayan Nair, Ph.D.

Degree Offered

Ph.D. in Biomedical Sciences

Biomedical sciences is the study of human biological processes; the complex interactions between physiological, genetic and environmental factors that influence disease and health. It spans the spectrum from fundamental discovery to innovation and application.

Areas of focus may include but not limited to cardiac health, nutrition, reproductive biology, toxicology, diagnostic & imaging and medical engineering.

The PhD program in biomedical sciences is designed to position graduates for long-term competitive success in the rapidly changing and multifaceted health-related arena in the 21st century. It is a comprehensive, interdisciplinary program, making connections between various disciplines to gain new insights, discover and apply new knowledge, and promote self-directed, life-long learning.

Biomedical Sciences is a research & discovery focused program balancing depth and breadth of content knowledge with "enabling" skills including problem solving, innovation, entrepreneurship, communication and leadership.

Program Specific Admission Requirements:

1. Minimum requirements. Applicants who do not meet the minimum requirements may be conditionally accepted at the discretion of the BMS Admission Committee. Please submit the application packet comprising the following documents for pre-admission screening:

a. Faculty sponsor. Contact potential biomedical sciences graduate program faculty sponsor in your area of interest prior to submitting an application. NOTE: a letter indicating the sponsorship by a faculty is strongly recommended as the program does not have a sufficient number of graduate assistantships to support all students.

b. Official academic transcripts. Successful completion of a bachelor's degree from an accredited institution with one or more semesters of biology, physics, anatomy, physiology, chemistry, biochemistry/molecular biology, math are recommended. All applicants should have at least a 3.0 cumulative GPA (scale of 4.0). While a master's degree is not required for admissions into the biomedical sciences Ph.D. program, a master's degree with a strong background in the research area of focus is a plus.

c. TOEFL/IELTS/Duolingo: The minimum acceptable scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS respectively. An applicant whose native language is English and is a citizen of one of the following countries or has earned a university level degree from a school in one of the following countries may be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/ cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency, until further notice.

d. Three letters of recommendation.

e. Statement of research interests and career objectives. A letter stating research & career interests and goals, prior research experience and outcomes, reasons for interest in BMS program. Include your contact information in the letter.

f. Current professional resume

2. Application Process. The BMS admissions committee reviews the completed application.

a. Contact faculty in your area of interest and obtain their endorsement. Faculty may choose to interview the candidate on-campus or via zoom.

b. Submit your application materials (pdf files of cover letter/statement of purpose, letter of sponsorship from the faculty, three letters of reference, transcripts, TOEFL scores to the admissions office via the University's admission portal.

c. To ensure full application review for fall semester admission, applications should be received by **February 15**.

d. Review by BMS Admissions Committee.

e. Forward application packet with BMS recommendation to the faculty and host department.

f. Notification of decision to applicant by **May 1**.

Program of Study:

Rationale: The program of study is designed according to student learning goals and research opportunities. It blends depth and breadth of preparation by providing broad core requirements with electives promoting specialization in a "parent" discipline. This is recognized on program documentation by a Doctorate in Biomedical Sciences/"specialization" area. For example, Doctorate in Biomedical Sciences/Reproductive Biology.

Student Learning Outcomes: The BMS program provides a unique array of formal courses and informal discovery experiences focused on ensuring aptitudes, behaviors, and skills necessary for leadership and competitive success in the biomedical science arena.

Although the foundation enabling innovative, independent thinking and knowledge discovery is deep discipline knowledge, the BMS program is also designed to promote student competency in information assessment, synthesis and integration, communication and translation to the broader community, teamwork, leadership, and project management.

The BMS program trains graduates to be competent, skilled experimentalists, problem solvers, critical and independent thinkers, expert in their field, with both depth and breadth of knowledge.

In addition, the program aims to instill characteristics that are essential to long-term professional success, preparing scientists who are effective and dedicated mentors and teachers, organized administrators, exemplars of high ethical standards, and effective collaborators.

Upon completion of the program, graduates will demonstrate:

- Independent, critical thinking skills
- Ability to identify appropriate biographical resources
- Knowledge of recent advances in discipline and related areas
- Understanding of a broad spectrum of research methodologies and their applications
- Ability to critically analyze research findings
- Ability to design and independently execute research
- Ability to use appropriate information technology to record, manage, and disseminate information
- Understanding of issues related to researcher and subject rights
- Motivation and aptitude needed to acquire knowledge
- Communication skills that are appropriate for a range of audiences and purposes
- Ability to construct and articulate arguments to a wide range of audiences
- Ability to effectively support the acquisition of knowledge by others when teaching or mentoring students
- Willingness to assume responsibility for their work
- Ability to design and teach undergraduate or graduate courses
- Ability to publish single/first authored papers in peer-reviewed journals

Program in Ecology and Evolution, Ph.D. Interdisciplinary Program

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/pie/

Email: ecology@uwyo.edu

Program Director: Melanie Murphy, Ph.D.

Degree Offered

Ph.D. in Ecology and Evolution

The Program in Ecology and Evolution (PiE^2) prepares doctoral students to lead the disciplines of ecology and evolution during the coming decades. The program is grounded in the natural history of organisms in their environment, but incorporates tools and perspectives from across the biological, physical, mathematical, computational, and earth sciences. Students develop conceptual, historical, and philosophical perspectives spanning the entire range of subdisciplines in ecology and evolution, while receiving advanced training in the subdiscipline of their individual interest.

The program fosters long-term career development by exploring the linkages of ecology and evolution with other disciplines, and by scanning the ecological horizon for emerging questions, concepts, and approaches that will shape the field in years to come.

Faculty members from several departments and colleges participate in the Program in Ecology and Evolution. Their interests span the full range of topics covered in the field of ecology and evolution, and students in the program reflect this diversity.

Program Specific Admission Requirements:

Only students seeking a doctoral degree will be admitted into the program. Minimum criteria for admission to the Program in Ecology and Evolution are:

Minimum undergraduate GPA of 3.000

Agreement by a member of the PiE^2 faculty to sponsor the student, or to co-sponsor the student together with a PiE^2 affiliate

Admission to a home department at the University of Wyoming

All applications to the program will be reviewed by the Graduate Affairs Committee, which has authority on admissions. Students applying to the program who lack a master's degree must show exceptional promise and commitment (e.g., through undergraduate or post-graduate research experiences, peer-reviewed publications, and/or success in competing for research fellowships). Such students are encouraged to consult with their prospective adviser on whether to apply directly to PiE^2 or to master's programs in individual home departments of PiE^2 faculty.

Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the program. Transfer is not pro forma. Transfer applications are subject to the same criteria as for entering students, and admission to the program for transfer students must be approved by the Graduate Affairs Committee.

Program Specific Degree Requirements:

Advisory Committee:

Before the end of the second semester of study, the student should nominate a five-member advisory committee to the Office of the Registrar. At least three members of the committee, including the committee chair (usually the student's adviser), will be members of the PiE^2 faculty. One other member, who will serve as Graduate Faculty representative, must be from outside the home department of the major adviser, although (s)he can be a faculty member in a department that participates in the program. The committee will advise the student on his/her program of graduate study, execute and evaluate the student's preliminary examination, evaluate the student's dissertation proposal and dissertation, and conduct the student's dissertation defense.

Program of Study:

All students are required to take ECOL 5100 or equivalent. This course should be taken during the first year of residency. Exceptions or substitutions of these requirements are subject to approval by the graduate affairs committee.

The program of study must include at least 6 credit hours aimed at developing a tool skill, which except for rare cases shall be in the quantitative/analytical domain (e.g., statistics, modeling, GIS, remote sensing, bioinformatics). Courses relating to research tools should be taken early in the student's residency to ensure that they can be used in thesis research and advanced studies. Specific coursework and tool-skill development for the student's program of study will be developed in consultation with and subject to approval by the student's advisory committee.

Admission to Candidacy:

Admission to candidacy for the Ph.D. requires two steps: 1) providing evidence that the student is prepared to identify a research question, design an approach for investigating that question, and a plan for executing the approach, all in the format of an NSF-style research proposal, and 2) illustrating adequate proficiency in the subject matter of ecology and evolution through a process involving both written and oral exams.

Proposal:

Students must submit a NSF-style proposal to their committee outlining their project, typically by the end of the fourth semester. Each committee member will provide feedback to the student on the proposed research and indicate approval of the proposal or request revision. The proposal must be approved by all committee members prior to starting the preliminary exams.

While this proposal should be a plan for actual dissertation research, unforeseen circumstances may require altering the student's dissertation work after the proposal has been approved by the committee. In the case of a major alteration, the student should reformulate a research plan and submit it to the committee in writing for committee approval.

Preliminary Examination:

Passing the preliminary exam is the official admission to candidacy.

Written portion of the preliminary exam. The student will take the written exam portion of the preliminary exam no fewer than two weeks following approval of the research proposal. The goal of this exam is to test breadth of knowledge in ecology and evolution. The design of this exam will be coordinated by the graduate committee under the leadership of the adviser. Each written exam will cover the following topics:

- Ecological topics ranging from organismal/evolutionary to ecosystem-level perspectives, integrating concepts and perspectives from across the discipline, over a wide range of spatial and temporal scales.
- The philosophical and historical development of ecology and evolution.

- The conceptual background of the student's area of specialization.

The exam will consist of four to six questions developed collectively by the committee and organized by the student's major professor. The exam will be open book; however, the answers will be solely the work of the student. Answers should be fully cited and collectively should be no longer than 30 pages double-spaced exclusive of references cited. Students will have one full week (seven days) to complete the exam. Committee members will indicate pass/fail within one week following completion of written exams. Four of five passing votes are required.

Oral Portion of the Preliminary Exam. No sooner than two weeks after successfully passing the written exam, the student may proceed to an oral exam administered by his/her graduate committee. Oral exams center around three goals from which questions will be derived:

- To verify that the student is prepared, conceptually and methodologically, to carry out successful dissertation research.
- To evaluate the student's ability to conceptualize specific questions in a broad, integrative context.
- To evaluate the student's ability to think spontaneously and creatively and to articulate responses about unexpected or novel questions.

The advisory committee will discuss and organize specific questions based on these goals in a short session at the beginning of the exam period before admitting the student to the examination room and starting the exam. Following the exam each committee member will provide non-binding paper votes of pass/ fail for each of the three goals of the oral exam. Following discussion of the student's performance, committee members will each assign a grade of pass/fail for the overall exam. Four of five committee members must vote for passing the overall oral exam.

Students whose performance is unsatisfactory will be given one opportunity for retaking the oral examination. This retake will occur no later than the academic-year semester following the first examination.

Public Seminars:

Students are required to give two oral presentations on their research. The purposes of these presentations are to provide the student with practice in oral presentations and to keep the PiE^2 community informed of the student's progress. The first will describe the student's dissertation research proposal. This presentation will be given before the student submits his/her thesis proposal. The second presentation will summarize the student's completed dissertation research, and will normally be given the same semester as the student's dissertation defense. Under extraordinary circumstances (subject to approval by the Graduate Affairs Committee), this presentation may be given at an earlier time. These presentations must be open to the public, and may comprise part of a departmental or Program in Ecology and Evolution seminar or brown-bag series.

Hydrologic Sciences (WRESE), Ph.D. Interdisciplinary Program

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/wrese

E-mail: wrese@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Degree Offered

Ph.D. in Hydrologic Sciences

The Water Resources/Environmental Science and Engineering (WRESE) program facilitates Ph.D. level course offerings in water-related disciplines, and coordinates offerings of these courses. Furthermore, the WRESE program serves as a focal-point for water-related graduate research and education at the University of Wyoming.

This interdisciplinary degree program encourages cross-department and inter-college coordination for research and education in hydrology and water resources.

The WRESE Program grants a PhD in Hydrological Sciences.

Program Specific Admission Requirements:

Ph.D. in Hydrologic Sciences

The WRESE Program only admits students seeking a doctoral degree.

Those interested in graduate study in this program, are encouraged to contact the WRESE program (wrese@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit an application to the program via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html). Prospective students applying to the WRESE program must satisfy the minimum criteria for admission of their advisor's home department (i.e., number of reference letters required; minimum GRE scores, if requested; other supporting documents, if requested; etc.). Similarly, applicants should adhere to the submission deadline indicated by their advisor's home department.

Minimum criteria for admission to the WRESE Program are:

- Minimum undergraduate GPA of 3.000
- Agreement by a faculty member affiliated with the WRESE program to sponsor the student
- Admission to a home department at the University of Wyoming

Typically, students admitted into the program will have previously obtained a Masters-level degree. Under certain circumstance, students may be admitted directly after an undergraduate degree if they show exceptional promise and commitment. Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the WRESE program.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Degree Requirements:

Students in the WRESE Program are expected to create their graduate committee within the first year of study. The committee should be composed of three faculty members within the PhD program in Hydrology and 2 should be from the student's departmental home. A committee shall be composed of no fewer than 5 members, of which only one may be from outside the University. Additional committee members may be added to support the student's learning and objectives on the discretion of the committee and WRESE Program chair.

Program of Study:

Students enrolled in the Program should complete their Program of Study within the first 3 semesters. The student shall work with his/her research advisor and committee to determine the appropriate course of study relative to the student's research agenda. Students are expected to complete a rigorous course of study in quantitative hydrological sciences. Minimum requirements for the PhD include:

- Coursework credits: 42 hours (26 can be from an MS)
- Total credits: 72 hours
- Math expectations: students are encouraged to pursue a high level of math proficiency, with typical students progressing through differential equations. Individual math expectations will be determined by the committee and program chair.

A dissertation proposal should be approved by the end of the 4th semester. Students shall submit their proposal to their committee for review two weeks prior to a holding a committee meeting where the student (a) presents their proposal in a public presentation and (b) defends the proposal to the committee in a closed meeting. After the meeting, the student shall amend the proposal as required by the committee within a timely manner.

Admission to Candidacy / Preliminary Examination:

Advance to candidacy is attained by passing preliminary exams within 3 years of initiating a degree program. Students should complete their preliminary exams as close to the end of their primary coursework as possible. Preliminary exams consist of two parts. The first part is a written examination wherein committee members shall submit written questions to the student. Once the student has passed their written exams, they will be administered an oral examination.

The written exam shall be administered by the student's research adviser, who will coordinate the questions so as to obtain a comprehensive review of the student's knowledge of the materials the student has learned in the classroom and needs to complete his/her research topic. Written questions should cover both conceptual and theoretical underpinnings in hydrological sciences and technical questions related to the student's research area.

The written exam will consist of a series of questions as decided upon by the committee and should take no more than two weeks to complete.

Each committee member shall grade their portion of the exam as pass/fail. The student shall be viewed as passing the written exam if no more than one person grades their portion of the exam as failing.

The oral examination will be held no sooner than two weeks after the written exams, and only after the student has passed their written examinations. The oral exam should be no less than 90 minutes long and no longer than 3 hours.

Following the exam, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Dissertation:

The student will prepare a dissertation and make the document available to the committee at least two weeks in advance of an oral defense of the document. The oral defense must be at least 15 weeks after the student has been advanced to candidacy. Students shall present a public defense to the university community that is expected to be approximately 45 minutes long, with a public question-and-answer period after the presentation. If the committee determines that the student has presented a suitable oral presentation of his/her research findings, a closed session meeting will be held in which the student defends their research to the committee. At the conclusion of the defense,

each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Other information:

Students in the WRESE Program may participate from any college, with the expectation that their program of study and dissertation will focus on quantitative issues of hydrology and water resources. The Program welcomes academic diversity, and students in WRESE have entered into the Program from a wide range of academic backgrounds and have hailed from numerous home departments, including Ecosystem Science and Management, Civil and Architectural Engineering, Botany, Zoology and Physiology, and Geology and Geophysics.

Molecular and Cellular Life Sciences, Ph.D. InterdisciplinaryProgram

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/mcls/
Email: mcls@uwyo.edu

Program Director: Daniel Levy, Ph.D.

Degree Offered

Ph.D. in Molecular and Cellular Life Sciences

This interdisciplinary program with more than 30 faculty participants spans a wide range of research topics, such as:

Biotechnology-bioengineering, biomaterials, pharmacology, cell biology and signaling, genetics and development, genomics, proteomics, computational biology, microbiology and infectious disease, structural biology, and biophysics.

Coursework focuses on core courses in biochemistry and molecular biology, with electives that include such diverse courses as:

Topics in Genomics, Biophysics, Microbial Physiology and Metabolism, Cell and Developmental Genetics, Mass Spectrometry and Analytical Chemistry, Biomedical Engineering, Mammalian Endocrinology, Cell Culture and Virology, Introduction to Bioinformatics, Protein Structure and Function, Microbial Genetics, Computational Biology, and Quantitative Microscopy.

Program Specific Admission Requirements:

1. Applicants should apply through the online graduate application link. This process requires uploading a statement of purpose, a CV, academic transcripts, and test scores. The statement of purpose should include a brief narrative that describes the applicant's motivation to pursue graduate studies in the life sciences, relevant experiences, and specific reasons for applying to the MCLS program at the University of Wyoming. The program does not adhere to strict test score minimums, however, for international applicants minimum suggested scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS, respectively. An applicant whose native language is English and is a citizen of one of the following

countries or has earned a university level degree from a school in one of the following countries will be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency until further notice. More information for international applicants can be found on the University of Wyoming graduate admissions website. The application also requests that three reference letters be submitted in support of the candidate's application. Completed applications are due on January 1.

2. The MCLS admissions committee reviews completed applications starting in early January of each application cycle. Promising applications are selected based on research experience, grades, test scores, and reference letters. The most compelling statements of purpose convincingly describe why the applicant is interested in pursuing graduate studies in the life sciences, detailing relevant past research experience and how it has prepared the student for PhD studies. Reference letters that include specific details and anecdotes about the applicant are most useful. The committee generally looks for grades of B or better in life science and chemistry courses, although lower grades can be balanced by a sufficiently strong research background. Successful applicants will be notified of admission decisions by May 1 at the latest, although the majority of decisions will be made by March 15.

3. Following the initial reviews, selected applicants are invited for a Zoom interview. Applicants will be provided with a primary research paper that they should read in preparation for the interview.

4. Zoom interviews are conducted with at least two members of the admissions committee. Applicants are asked a variety of questions, including why they are interested in the MCLS program, how their previous research experience has prepared them for PhD studies, their perceived strengths and weaknesses as a scientist, and future career goals. The interviewers also ask questions about the research paper and more general molecular biology questions to determine if the applicants have a sufficiently strong background to succeed in the MCLS program.

5. Shortly after the interview sessions, the MCLS admissions committee discusses the results of the Zoom interviews and ranks applicants for offers of admission, conditional upon approval by the Office of Admissions.

Program Specific Degree Requirements:

MCLS doctoral students must fulfill the minimum requirements outlined by the university. In addition, students must obtain a high level of proficiency in the core foundations of the molecular and cellular life sciences through required courses in biochemistry/ molecular biology, scientific literature analysis proficiency, and the MCLS cornerstone course. Because of the broad range of research interests pursued by MCLS faculty and students, considerable flexibility will be exercised regarding the specific nature of the graduate level elective courses that students may take. Students must successfully complete four eight-week rotations in MCLS laboratories of their choice during the first year. Additionally, students must pass a comprehensive assessment exam at the end of the first year. Near the end of their second year in the program, students will undertake a qualifying examination in order to be formally admitted to graduate degree candidacy. This exam will have both written and oral components and will cover areas of science that are relevant to the students' proposed research. Annual meetings with a research-specific dissertation committee will facilitate and evaluate the research progress of MCLS students beginning in the second year. Students must also attend weekly outside seminars on topics in the molecular life sciences for the durations of their studies. For more information, please see the program's Website at: http://www.uwyo.edu/MCLS/.

Neuroscience, Ph.D. InterdisciplinaryProgram

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128

Website: http://www.uwyo.edu/neuroscience/
Email: neuroscience@uwyo.edu

Program Director: Kara Pratt, Ph.D.

Degree Offered

Ph.D. in Neuroscience

The Graduate Neuroscience Program offers training leading to the Ph.D. degree in Neuroscience. The Neuroscience Program emphasizes systems and integrative approaches, and our goal is to provide the students with the necessary background to be broadly trained research neuroscientists and to carry out independent research in neuroscience. The Neuroscience Program emphasizes continuing interaction with faculty from several departments and we have a low student to faculty ratio. Advisors spend considerable time supervising and training each doctoral student. The educational philosophy of the Neuroscience Program is to encourage a problem-oriented rather than a strict discipline-bound approach to research. You will emerge from this program with the scientific and experimental training needed to comprehensively address a very wide range of research questions using a variety of techniques and analytic tools.

The Graduate Neuroscience Program is designed to enable graduate students to acquire competence in the various disciplines necessary for research and teaching careers in neuroscience. The current interests of the Neuroscience faculty include sensory neurophysiology, behavioral neuropharmacology, neurodevelopment, neurodegeneration, and synaptic plasticity.

Students and faculty have access to outstanding resources established by NIH Neuroscience and Sensory Biology Core grants. The Microscopy Core houses both light (Zeiss laser scanning, fluorescent) and electron (Transmission and

Scanning) microscopes. Resources needed to conduct research ranging from molecular, cellular circuit level to behavior are readily available within the Neuroscience Center.

Doctoral Program Admission Minimum Requirements:

GRE: Accepted but not required;

GPA: 3.000 (4.000 scale);

Three favorable letters of recommendation;

Bachelor's degree in a biological science from an accredited institution;

Statement of research interests and career objectives. We recommend that students study the Neuroscience faculty web sites and contact faculty regarding openings and shared research interests.

You will be best prepared for our program if you have successfully completed courses in neuroscience, chemistry, biology, physiology, and cell/molecular biology. Students may be admitted with deficiencies in some of the areas if they are strong in many or all others. If so, the student's advisory committee will determine what additional work is necessary during the first year to correct any deficiency.

Program Specific Degree Requirements:

All doctoral Neuroscience students are required to complete a program of core classwork that must include the required courses Introduction to Neuroscience (NEUR 5280) and Structure and Function of the Nervous System (NEUR 5100).

Students are required to take one course in Statistics (e.g. STAT 5050, STAT 5210) and the course that meets this requirement will be arranged with the student's committee. The statistics requirement must be met by the end of the second year. The Neuroscience Program is a research-oriented program and students are expected to take a minimum of 2 to 3 credit hours of research per semester. Students are also expected to enroll in an on-going Seminar in Neuroscience. The Neuroscience Seminar, which meets weekly and is attended by students and faculty members, provides an opportunity for intellectual and social exchange, as well as for the development of professional skills in critical thinking. The topic for seminar and the faculty member directing the seminar changes each semester. The remainder of the coursework for the doctor of philosophy degree is selected from designated courses in Neuroscience, physiology, pharmacology, and molecular biology. A grade of B or better is required for all Neuroscience courses.

A student is expected to have a graduate adviser at all times. The faculty adviser must be a participating member of the Neuroscience faculty. The adviser is responsible for directing the student's research and academic coursework. During the second year, the student will have an advisory committee. The advisory committee will consist of at least three neuroscience faculty members and an outside member. Normally, the student's adviser will chair the committee and help identify members of the committee who best match the student's area of interest. The role of the advisory committee is to oversee all aspects of the student's education after the first year.

In the student's second or third year, the advisory committee will set and evaluate the student's qualifying examination. After successful completion of the preliminary examination the student will profess to Ph.D. candidate status.

The dissertation is the single most important component of the graduate program. It reports the results and significance of the student's research. In addition to the written dissertation, the doctoral candidate will deliver a formal seminar based on their research. The seminar will be followed by an examination by the student's advisory committee.

Water Resources (WARE), M.S. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/wrese/ware/
Email: ware@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Departments and Degrees Involved in WARE

Several academic departments throughout the university work together to provide an interdisciplinary Master's degree program in water resources. The Masters' degree offered through these affiliations is awarded as a major with each of the sponsoring departments graduate programs and is designated on the graduate transcript as: M.S. or M.A. in (Program Name)/Water Resources. This formal recognition of a water resources degree emphasis certifies that the student has completed an in-depth multidisciplinary course program in the broad area of water resources. The following is a list of participating departments:

- Agricultural Economics/Water Resources
- Botany/Water Resources
- Civil Engineering/Water Resources
- Economics/Water Resources
- Entomology/Water Resources
- Geology/Water Resource

- Geophysics/Water Resources
- Rangeland Ecology And Watershed Management / Water Resources
- Soil Science/Water Resources
- Zoology And Physiology/Water Resources

The WARE program is an interdisciplinary MS "slash" program. Students who enroll in the program are pursuing graduate studies in a range of departments at the University of Wyoming. WARE is a dual degree program that encourages students to pursue interdisciplinary academic options while completing their MS research.

The educational underpinnings of this program include the following:

- The purpose of the program is to develop cross-disciplinary education and perspectives regarding water resources.
- Training is to be consistent with the rigor expected of professionals with water resource expertise.
- The cross-disciplinary major program is flexible to meet the individual professional objectives of students.

Primary responsibility of student guidance and graduate program formulation resides with the sponsoring department and sponsoring major professor. Once accepted to a "home" department, each candidate will form a graduate committee that contains at least one member drawn from the Hydrologic Science Program faculty. The faculty representative on the candidates graduate committee shall aid in formulating course program design, academic performance criteria, and research objectives throughout the candidates' tenure in the program.

College of Law

101D Law Building
Julie Hill, Dean
Phone: (307)766-6416 FAX: (307)766-6417
Web site: www.uwyo.edu/law

Professors:

KLINT ALEXANDER, B.A. Yale University 1991; Ph.D./M.Phil. Cambridge University 1997; J.D. University of Virginia 1999; Professor of Law 2015.

MELISSA ALEXANDER, B.A. Yale University 1996; J.D. University of Virginia 1999; Professor of Law 2019, 2015.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Associate Dean for Academic Affairs and Professor of Law 2008, 2002.

DANIELLE R. COVER, B.A. University of Maryland 1994; J.D. Tulane University School of Law 1997; Professor of Law 2020, 2014; Director of Legal Services Clinic.

JAMES M. DELANEY, B.A. University of Washington 1985; J.D. Gonzaga University School of Law 1992; LL.M. in Taxation, University of Florida 1997; Professor of Law 2013.

STEPHEN M. FELDMAN, B.A. Hamilton College 1977; J.D. University of Oregon 1982; J.S.M. Stanford University 1986; Jerry W. Housel/ Carl F. Arnold Distinguished Professor of Law 2002.

JULIE HILL, B.S. Southern Utah University 1998; J.D. Brigham Young University 2001; Dean and Professor of Law, 2024.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

SAM KALEN, B.A. Clark University 1980; J.D. Washington University 1984; Professor of Law; Associate Dean 2014, 2009.

GEORGE MOCSARY, B.E. The Cooper Union School of Engineering 1995; MBA University of Rochester 1995; J.D. Fordham University School of Law 2009; Professor of Law 2019.

NOAH B. NOVOGRODSKY, B.A. Swarthmore College 1992; J.D. Yale Law School 1997; Professor of Law 2013, 2009.

TARA RIGHETTI, B.A. University of Colorado Boulder 2005; J.D. 2007; Professor of Law 2020, 2014.

JASON ROBISON, B.S. University of Utah 2003; J.D. University of Oregon 2006; LL.M. Harvard Law School 2009; S.J.D. 2013; Professor of Law 2019, 2015.

ALAN ROMERO, B.A. Brigham Young University 1990; J.D. Harvard University 1993; Professor of Law 2007, 2003.

MICHAEL R. SMITH, B.S. Florida State University 1982; J.D. University of Florida 1985; Professor of Law 2006.

Associate Professors:

JERRY FOWLER, B.A. Princeton University 1983; J.D. Stanford University 1990; Associate Professor of Law 2023, 2019; Director, International Human Rights Clinic.

LAUREN MCLANE, B.S. Radford University 2002; J.D. Seattle University School of Law 2008; Associate Professor of Law 2021, 2018.

DONA PLAYTON, B.S. University of Wyoming 1989; J.D. University of Wyoming 1993; Associate Professor of Law 2002, 2018; Director, Family and Child Legal Advocacy Clinic.

Assistant Professors:

MEREDITH ESSER, B.A. Dartmouth College 2003; M.S. London School of Economics and Political Science 2005; J.D. Georgetown University Law Center 2010. Assistant Professor of Law 2023; Director, Defender Aid Clinic.

RACHEL NGO NTOMP, L.L.B**.** University of Geneva 2015; L.L.M. University of Geneva 2017; L.L.M. Boston University School of Law 2022; Assistant Professor of Law, 2024.

CARYN SCHREIBER, B.A. Binghamton University 2008; J.D. Brooklyn Law School 2012; Assistant Professor of Law 2024.

Professor of Practice:

KIPP CODDINGTON, B.S. Purdue University 1986; J.D. Georgetown University Law Center 1993; Professor of Practice; Director of Energy, Environment, and Natural Resources Clinic; Director of Externships 2023.

Academic Professionals:

LINDSAY HOYT, B.A. University of Wyoming 1999; J.D. University of Wyoming 2003; Assistant Dean 2017.

TAWNYA PLUMB, B.A. University of Wyoming 1996; M.L.I.S. University of Texas at Austin 1998; Electronic Services and Law Librarian, Director of Law Library 2023, 2004.

Professors Emeritus

Debra L. Donahue, Harvey Gelb, Timothy Kearley, Dee Pridgen, Elaine A. Welle, Kenneth D. Chestek.

Academic Professionals Emeritus

Debora A. Person

The College of Law was founded in 1920. The goal of the college is to provide a sound and thorough education in the law that will prepare the student to practice law in accordance with the highest standards of professional competence and responsibility. The emphasis in instruction is on analysis and understanding of legal principles and the development of skills necessary to the practice of the profession. The course of study will prepare a graduate to practice in any jurisdiction which has adopted the Anglo-American system of law.

The curriculum of the College of Law consists of three years of study within the college. Required courses necessary to basic legal knowledge make up the first two semesters of study, while courses in the final four semesters are largely elective. Students become eligible to receive the Juris Doctor (J.D.) degree upon successful completion of 90 semester credit hours of law courses with a grade point average of at least 2.000.

The college acts as a law center for Wyoming. It serves lawyers, judges, and government by a program of continuing legal education for attorneys and others interested in significant legal developments, by research projects aimed at improving state law, and by publishing the Wyoming Law Review.

Accreditation

The college is approved by the American Bar Association and its graduates are eligible for admission to the bar in every state. A student planning to practice in a particular state should check its rules for admission to the bar.

The college is also a member of the Association of American Law Schools. Membership is conditioned upon the maintenance of an adequate teaching staff and library, the offering of a sound educational program and adherence to prescribed standards for the admission and graduation of students.

Prelegal Curriculum

There is no prescribed or required set of courses for prelegal work. A student must usually have a B.A. or B.S. degree before beginning the professional study of law. There are no restrictions on the field in which the degree is earned. A master's degree is not required for admission to law school.

The objective of prelegal study should be to acquire knowledge and skills useful in the study and practice of law. College study should prepare the student for law school by developing language comprehension and use, understanding of political, economic, social and cultural institutions, and the ability to think logically and creatively. Courses promoting these objectives are included in the basic requirements for most undergraduate degrees. The choice of a major should be determined by the student's academic interest and professional objective in law.

Valuable background may be acquired through the study of english, history, philosophy, economics, political science, psychology, sociology, business administration, mathematics and the natural sciences.

For additional information, see the College of Law web site, (www.uwyo.edu/law).

Admission Requirements and Procedures

Admission to the professional curriculum in law is granted by the admissions committee of the College of Law. The College of Law restricts the number of entering students to a class size consistent with its facilities and its educational objectives. In evaluating an application, the committee considers the applicant's undergraduate college scholastic record and score on the Law School Admission Test (LSAT).

Other criteria relevant to the probability of success in the study and practice of law will also be considered.

1. Prior to beginning work in the College of Law, applicants must have a bachelor's degree from an accredited college or university, unless they have requested and been granted following exception:
    a. An applicant who needs not more than 6 semester hours of college credit to qualify for a bachelor's degree may be admitted in exceptional cases to law school if the committee determines that the applicant has sufficient education and preparation for the study of law; has an outstanding undergraduate scholastic record; and has an approved program signed by the appropriate undergraduate official indicating that the remaining requirements for the bachelor's degree may be met by summer school attendance or by other means that will not interfere with the study of law.
2. Every applicant must take the Law School Admission Test (LSAT). Information about the test, the dates on which it is given, where/how it is taken, sample questions and an application form, may be obtained from Law School Admission Council, Box 2000, Newtown, PA 18940, by phone at (215) 968-1001, online at www.lsac.org.
3. Every applicant must register and pay the associated fees with the Law School Admission Council Credential Assembly Service. CAS registration may be done through the LSAC website (www.lsac.org). The CAS will prepare a report that is transferred to the college where the applicant has applied.
4. Every applicant must complete the electronic University of Wyoming College of Law Application through LSAC between September 15 and April 30. Applications that are received and complete by December 15 will be considered for early admission.
5. Every applicant must pay the College of Law $50 Application Fee located at: https://secure.touchnet.net/C27222_ustores/web/store_main.jsp?STOREID=14&SINGLESTORE=true
6. If admitted, official transcripts must be sent directly to the College of Law from each college attended and must be on file in the Admissions Office at least 30 days before the student's registration date.

Application Deadline

An initial entering class will be selected from completed applications on file on April 30. Students who submit a complete application, and it is received by the College of Law, by December 15 will be considered for early admission. An application is complete only when the college has received the LSAT score, and transcripts included in the CAS report, applications, and all supporting documents provided by the applicant.

Admission With Advanced Standing

Transfer students are admitted only when the College of Law facilities and curriculum permit. A transfer student may transfer a minimum of 30 credits, and up to the number of credits the student could have earned had the student completed their first year at the University of Wyoming College of Law. Transfer credit will be given only for courses in which the student earned a grade of C or higher. If admitted, the student must satisfy the requirements for graduation established by the College of Law, including such other requirements as may be imposed as a condition of admission. Students interested in transferring should contact the College of Law for information concerning application procedures. The transfer student application opens May 15th and closes July 1st, through LSAC.

Academic Regulations

The Juris Doctor (J.D.) degree is awarded by the College of Law faculty to candidates who meet the following requirements:

Curriculum is subject to change at the College of Law Faculties discretion, which may cause the annually updated university catalog to be out of date. For students matriculating in or after the fall 2013 semester, each student must successfully complete (grade of "D-" or better for courses taken at this school, grade of "C" or better for courses taken elsewhere) 90 credit hours (required for graduation) of law coursework in accordance with the official curriculum as adopted by the College of Law faculty. At least 59 of these credits must be completed at the University of Wyoming College of Law. Courses taken for S/U grades count toward the hours required for the J.D. degree only if the course is offered for the S/U grade only. Regardless of the matriculation date, students must complete at least 76 credit hours through graded (A-F) courses.

The course of study must be completed no earlier than 24 months (2 years) and not later than 84 months (7 years) after a student has commenced law study. No student shall be permitted to enroll at any time in coursework that, if successfully completed, would exceed 20 percent (18 hours) of the total coursework required for graduation.

Second and third year students may take up to six of 90 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students must receive a letter grade of B or better for these non-law courses to count toward graduation requirements. Additionally, these courses will transfer in with a satisfactory grade of 'S' and will not impact their law school GPA. Students who wish to enroll in a non-law course on this basis must secure the prior approval of the course professor and the Associate Dean of Academic Affairs at the College of Law. Approval will be based on the student's submission of a Non-Law Grad Course Request form with a brief written statement explaining how the proposed coursework relates to and enhances the student's legal education. Students should be aware that non-law courses completed on this basis will not count toward the 76 hours that students must complete in graded courses as a requirement for graduation. The non-law coursework will instead be counted as credits the law students are permitted to take on an S/U ba

Independent study writing credits: A student may earn one or two credits for an independent study writing project, as agreed by the student and supervising professor and approved by the Assistant Dean for Student Affairs. One credit requires at least 50 hours of work and two credits requires at least 100 hours of work. Up to three of the credit hours required for graduation may be independent study writing credits.

The College of Law automatically approves up to 9 hours of any joint degree core courses with the corresponding prefix to their joint degree (i.e. MBAM, POLS, ENR) that meet the grade requirement, of a letter grade of B or better, to transfer in toward their law degree. However, if a student drops their dual degree, any non-law courses are subject to review and approval based on the criteria in the previous paragraph. Additionally, if courses are needed outside of these respective prefixes, these will be approved on a case by case basis. Those students enrolled in a joint degree program may take up to 9 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students in a joint degree program who use 9 non-law credit hours toward their J.D. degree may reduce their required number of graded credits from 76 to 73 so that they can participate in other S/U offerings at the College of Law. To receive law school credit for the non-law course, a student will be required to earn a grade of B or better in the non-law course. The grade will not count, however, toward the student's law school GPA. The course will be counted as a "satisfactory" grade for purposes of the student's law school GPA. Joint degree students should be aware that non-law courses completed on this basis will not count toward the 73 hours that joint degree students must complete in graded courses as a requirement for graduation. The non-law coursework will instead be counted as credits the law students are permitted to take on an S/U basis.

To graduate, all students must earn a cumulative grade point average of 2.000 for all courses taken at the College of Law. If a course is repeated, both grades shall be included in computing the average. The student, except in exceptional circumstances, must have a baccalaureate degree. Candidates who meet these requirements are eligible for graduation at the end of any semester.

Academic Standing

The following requirements apply to any coursework at the College of Law. Courses that law students may complete outside of the College of Law do not count in calculation of the required College of Law grade point average (GPA).

In the first year, a student who fails to make a 1.800 GPA after the first semester, or fails to make a 1.900 cumulative GPA overall in the first year's work, shall be excluded from the College of Law. A student who at any time fails to make a passing grade in two of the courses for which the student is registered in any semester shall be excluded from the College of Law.

A student who enters the second year with a GPA lower than 2.000 but at 1.900 or above, or who fails to maintain a 2.000 cumulative GPA after the first year, shall be placed on academic probation. A student on academic probation who does not attain an overall grade point average of 2.000 within one semester shall be excluded.

A student excluded from the College of Law may petition the faculty for readmission. The faculty may, in its discretion, readmit the student upon receipt of satisfactory evidence of extenuating circumstances or marked improvement in grades and study habits. Readmission may be subject to conditions, including, but not limited to, the repeating of any or all courses, as the faculty may decide. If a student's petition for reinstatement is denied, the student must wait nine months before petitioning again for readmission. Also, all students are limited to two petitions for readmission. The entire faculty will automatically hear and consider a student's initial petition. In the event of a second petition for readmission, a committee selected by the Dean will hear and consider the petition. The committee will present a report and recommendation to the faculty for adoption. Denial of a second petition is final.

Advanced Writing Requirement

As a condition of graduation, all students must complete an upper-level writing requirement consisting of a research paper of a minimum length of 5,000 words, exclusive of footnotes. All students must follow a designated standard citation form. Students must submit a detailed outline of the paper to the supervising professor, then must rewrite the paper at least once after the professor reviews the first draft. With the professor's approval, the student can meet the advanced writing requirement in any law school elective course, including a seminar, as long as the above requirements are met. The supervising professor must certify that the writing requirement has been fulfilled.

All student articles written for law review, whether published or unpublished, must have a supervising faculty member and otherwise meet all other provisions of the College of Law Advanced Writing Requirement. A student may also fulfill the requirement through an independent study or by writing a case note or comment for the law review, under the supervision of a professor. It cannot be satisfied through participation in a clinic.

Attendance Requirement

In accordance with American Bar Association Standard 308(a),[1] students must attend at least 75 percent of scheduled classes in each course. A professor may impose a minimum-attendance requirement of greater than 75 percent if the policy is communicated in writing before or during the first day of class. The law school will not differentiate between excused and unexcused absences under this policy. Rather, the minimum-attendance requirement of 75 percent accounts for all student absences regardless of causation.

A student who does not comply with the minimum-attendance requirement will be dropped from the course and receive a grade of F, unless extenuating circumstances are present, in which case the student will be dropped from the course and receive a grade of W. A professor may impose sanctions for students who comply with the minimum-attendance requirement, but who violate additional attendance guidelines specified for the course, if such guidelines and sanctions are communicated in writing before or during the first day of class.

A professor may allow students to participate in class via virtual platforms (*e.g.*, Zoom), but students who participate in this manner will be counted as absent regardless of causation. If a professor must schedule a class meeting over a virtual platform (*e.g.*, Zoom), students who participate in the class meeting over the virtual platform will not be counted as absent.

The tables below identify how many classes students must attend to comply with the minimum-attendance policy in three-credit and two-credit courses based upon the number of class meetings. For one-credit and four-credit courses, students must verify with the professor the number of classes required to comply with the minimum-attendance requirement.

Table 1. Three-credit course meeting twice per week for 80 minutes each session, or

Two-credit course meeting twice per week for 55 minutes each session:

Class Meetings	Minimum Attendance
26	20
27	21
28	21

Table 2. Three-credit course meeting three times per week for 55 minutes each session:

Class Meetings	Minimum Attendance
40	30
41	31
42	32

Class Rank

Students are ranked by class at the end of each of the fall and spring semesters once the faculty have submitted all grades. Class rankings will be available in the Front Office. Students can choose to have their spring class ranking letter mailed to them if they provide the Front Office with a self-addressed, stamped envelope. Transfer students to the College of Law shall not be ranked with other UW students until they have completed two full-time semesters at UW (or a minimum of 24 UW credits). Students who visit out at other ABA accredited law schools or who graduate early are ranked based on their ranking at the end of their last semester at UW.

Experiential Learning Requirement

As a condition of graduation, each student must successfully complete no fewer than 6.0 credit hours in experiential learning courses. Experiential learning courses include a simulation course, a law clinic, or an externship field placement. Simulation courses provide substantial experience not involving legal representation of an actual client, that (1) is reasonably similar to the experience of a lawyer advising or representing a client or engaging in other lawyering tasks in a set of facts and circumstances devised or adopted by a faculty member; and (2) includes: direct supervision of the student's performance by the faculty member; opportunities for performance, feedback from a faculty member, and self-evaluation; and a classroom instructional component (ABA Standard 303).

Typically students may fulfill the experiential learning requirement by successfully completing 6.0 credit hours in any of the following upper- class elective courses:

Advanced Appellate Advocacy (LAW 6520)
Advanced Legal Research (LAW 6990)
Advanced Oil & Gas Law (LAW 6992)
Advanced Persuasive Writing (LAW 6925)
Alternative Dispute Resolution (LAW 6915)
Business Planning (LAW 6560)
Civil Pretrial Practice (LAW 6565)
Clinic: Civil Legal Services (LAW 6930 or LAW 6931)
Clinic: Defender Aid (LAW 6932 or LAW 6930)
Clinic: Energy, Environ. & Natural Resources (LAW 6933 or LAW 6930)
Clinic: Family & Child Advocacy (LAW 6930 or LAW 6934)
Clinic: International Human Rights (LAW 6930)
Clinic: Prosecution Assistance (LAW 6930 or LAW 6936)
Contract Drafting (LAW 6935)
Estate Planning (LAW 6670)
Estate Planning Practicum (LAW 6937 or LAW 6930 or LAW 6915)
Externships (LAW 6960)
Interviewing, Counseling & Negotiation (LAW 6166 or LAW 6915)
Summer Trial Institute (LAW 6850)
Trial Practice (LAW 6850)

Note: classes may be removed from and/or added to this list each semester.

Grading

Grades are assigned on a plus/minus system. Grades of incomplete (I), and withdrawal (W), are disregarded. A required course in which a grade of F or W or U is received must be repeated. A course cannot otherwise be repeated without the consent of the faculty. If a course is repeated, both grades are included in computing the student's grade point average.

A 4.00	B + ...3.333	C+ 2.333	D+ 1.333	F 0.000
A- 3.667	B 3.000	C 2.000	D 1.000	WF 0.000
	B- 2.667	C- 1.667	D- 0.667	

Satisfactory (S) or unsatisfactory (U) grading applies only if the course is offered on an S/U basis or a student takes a non-law graduate-level course as explained above. Students from other colleges who are permitted to take professional

courses in the College of Law must take them for S/U credit. The grading scale is at discretion of the instructor for each course.

Mandatory Legal Writing Grade Policy: Under Law School policy, for each section of the Legal Writing I and II courses, the mean final grade for all students in the section must fall between 2.505 and 2.835. The range 2.505-2.835 falls around a B- (2.67), with the upper limit being halfway between a B- and a B and the lower limit being halfway between a B- and a C+.

Bar Exam Passage Rate Improvement Program

Students matriculating after August 2021, a student whose first-year GPA is in the bottom one-third of the class will be required to pass four of the following courses as a requirement of graduation: Business Organizations (or one of either Agency and Partnership or Corporations); Secured Transactions; Trusts and Estates; Criminal Procedure; Criminal Adjudication; Family Law; Constitutional Law II; or Real Estate Finance. During the fall and spring semesters after the 1L year it is required to take at least one of these courses as a minimum each semester, until the requirement has been satisfied.

In order to graduate, a student whose first-year GPA is in the bottom one-third of the class will also be required to take and pass a law school-offered bar examination course as a 3L (typically in their final spring semester), unless for unanticipated reasons the College of Law does not offer that course in a particular year.

Curriculum

Required Courses: First (1L) Year Students (*Additional courses cannot be taken the first year without special permission from a dean***).**

Fall Semester

Civil Procedure I (6240) - 3

Contracts I (6110) - 3

Legal Research (6165) - 1

Legal Writing I (6160) - 3

Property I (6120) - 3

Torts I (6130) - 4

Spring Semester

Civil Procedure II (6340) - 2

Constitutional Law I (6250) - 3

Contracts II (6210) - 2

Criminal Law (6140) - 3

Legal Writing II (6260) - 2

Property II (6220) - 2

Required Courses: Second (2L) Year Students (offered once per year)

Evidence (6410) - 3

Professional Responsibility (6420) - 3

Elective Courses: Second (2L) & Third (3L) Year Students (* subject to availability)

See Law Courses section

Honor Code System

Students enrolled in the College of Law are engaged in a course of study leading to membership in the legal profession. The profession requires adherence to high ethical standards and the assumption by its members of responsibility for the maintenance of those standards. Accordingly, the College of Law has adopted an Honor Code addressing misrepresentations, theft, the use of library materials, the preparation of course work, and the conduct of examinations, along with procedures for alleged violations. A copy of the Honor Code is given to each new student who enters the College of Law. All students are governed by the Honor Code and are required to sign a pledge to abide by and be subject to the provisions of the code. See the Honor Code section of the handbook for more details.

Graduation with Honors

The degree of Juris Doctor is awarded with honors if the student achieves a grade point average of 3.400 or better on all resident credit in the College of Law.

Honor Roll

Students enrolled in a minimum of 12.0 semester hours of law courses carrying A-F grades, and who have no semester grades of incomplete (I), are eligible for the President's Honor Roll and the Dean's Honor Roll. Students with a semester average of 4.000 will be named to the President's Honor Roll. First-year students with a semester average of 3.250 or better and second-year and third-year students with a semester average of 3.400 or better will be named to the Dean's Honor Roll.

Minimum Hours

The College of Law does not permit students to attend on a part-time basis. Students are required to take the full load of required courses during their first two semesters and to carry at least 9 credit hours in law courses in each of the remaining semesters of law study. Notwithstanding, if a student has less than 9 credits remaining in their final semester of study, then said student may register for only the number of remaining credits (e.g. if a student only has 4 credits left to graduate, that student will only be required to register for 4 credits). First year students will be allowed to take less than the full load of required courses only if they present exceptional circumstances, as determined by the Dean or his/her delegate

Transfer Credits

The College of Law admits transfer students only in the fall of their second year. A student granted transfer admission may transfer credits earned in courses taken at another ABA-accredited law school toward a degree from the UW College of Law up to the number of credits that a traditional UW student would have earned during the student's first year at the University of Wyoming (31credits as of the 2020-21 academic year). In addition, University of Wyoming law students who visit out for a semester or full year may also transfer credits from other ABA approved law schools, as long as 59 credits are completed at the University of Wyoming. The College of Law will also accept up to 15 hours of transfer credit from another ABA accredited school for an international student previously enrolled in an LL.M. or other post-J.D. program. To receive transfer credit from a course, a grade must be a "C" or better. Transfer credits are recorded on the JD transcript as an "S" (Satisfactory), instead of graded credits. All transfer credits must be approved by the Associate Dean of Academic Affairs in advance.

Withdrawing from a Course &/or the University

Failure to attend class or failure to pay tuition does not constitute withdrawal from a class or from the University. Students who pre-register for classes on WyoWeb will be assessed tuition and fees. Students who drop or withdraw from their last or only class for a given term after the end of the drop/add time period must also meet with the Assistant Dean of the College of Law and complete the official withdraw forms required by the Office of Registrar. Financial aid recipients who withdraw from courses or reduce credit hours must consult with a financial aid counselor regarding repayment of financial aid funds if applicable. For more complete details regarding deadlines, refunds, and cancellations, see the University's Accounts Receivable web page http://www.uwyo.edu/fsbo/accounts-receivable/

Exam Procedures and Policies

1. Review the Honor Code before beginning the exam period. It applies to all examinations. If you have any questions about the materials allowed by a professor, please see the professor in advance of the exam.
2. A copy of the final exam schedule will be posted on the web, please check dates and times carefully.
3. We use exam numbers, rather than students' names, so that professors cannot identify the students' exams they are grading. Exam numbers will be available in ExamSoft one to two weeks before the exam period. You must write this number on all of your exams and blue books, or as your identification number for typed exams. **DO NOT** write your name on your exam. Midterm exams and final exams have unique numbers. Save these numbers, as you will use the same number for all of your midterm and final exams respectively. New numbers are assigned each semester.
4. All examinations must be: (A) written in ink in 8 1/2 x 11 size "blue books," OR (B) typed on the student's laptop using the ExamSoft software. Students provide their own blue books, pens or laptops. The law school will supply answer sheets and pencils for any multiple choice exams.
5. If you are using a laptop:

- Examplify (SofTest) is operable for PC's and Mac's. Please reference this site for the most up to date Minimum System Requirements, Examplify: Minimum System Requirements - ExamSoft
- You must download the exam software (free for students) well in advance of the exam day.
- Have your laptop set up and the software running in the designated room before the time to begin the exam.
- Instructions for using the ExamSoft Examplify (SofTest) software are available at the Examsoft website (use Chrome or Firefox ONLY).
- If you experience any problems with your computer during the exam, come to the front office immediately and someone will assist you.
- Once you complete the exam, and have turned in your exam questions, be sure you receive the "upload successful" message to assure that your exam answers have been transmitted.

6. All exam reschedules must be approved by COL Assistant Dean, Lindsay Hoyt or the Registrar. You must meet the criteria published within the exam schedule to reschedule an exam, i.e., two exams on one day, three exams in three days, or four exams in five days. Fill out the exam reschedule request form and turn it into COL Registrar, Dave Bluemel. Please note, that if possible, an elective will be rescheduled rather than a large required class, and rescheduled to a later, rather than an earlier date.

7. Students who are handwriting their exams must return the exam questions and blue books to a staff member in the lobby outside the Dean's office at or before the time indicated on the exam. Laptop users should exit the exam software and turn in the exam questions to a staff member at or before the time indicated. It is your responsibility to determine the precise time the exam is to be returned and to ensure that you meet the deadline. Use the clock in the exam room for reference, not the clock that may appear on your computer or the time on your wristwatch.

8. During the exam, turn off (or leave outside the room) all cell phones, smart watches, pagers, and PDA's. Do not leave them on vibrate, as this may be disturbing to other students.

9. When you finish your exam, please be courteous/quiet as you gather your belongings and leave the exam room. You MAY NOT return to the room to gather your belongings after you have turned in your exam, unless it is after the collection time indicated on the exam. **B**e aware that students are taking exams in both the morning and the afternoon and are taking exams that have differing ending times -- so please curb your talking in the classroom areas and halls during the administration of exams.

10. If you cannot take the exam at the set time due to illness, or other emergency, you must notify Assistant Dean Lindsay Hoyt, as soon as possible, prior to the exam and be prepared to supply appropriate documentation.

11. Final grades will be available on WyoWeb. No grades will be given over the telephone.

Final Exam Reschedule Policy

No student is required to take exams in the following circumstances as long as they submit a reschedule form two weeks prior to the first day of exams:

- two exams on one day
- three exams in three consecutive days
- four exams in five consecutive days

Students who have six final exams cannot be provided relief due to the limited number of exam days. Efforts will be made, however, to distribute the six exams so as to avoid three in a row. A student who meets the above criteria must see Assistant Dean Lindsay Hoyt to reschedule. Exams are not normally rescheduled outside of the regular exam period.

Disability Assistance

The University of Wyoming College of Law is committed to making its programs accessible to individuals with disabilities and ensuring a robust academic experience for all students. The College of Law works closely with the Disability Support Services office on the University's main campus to coordinate a variety of services for students with disabilities. The Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 guarantee equal access to programs and services to those with disabilities. In order to be a qualified individual subject to the protections of these Acts, a person must demonstrate that he or she has a disability that substantially limits a major life activity (e.g., seeing, hearing, walking, breathing, performing manual tasks, learning, caring for oneself, and working) and, as such, requires a reasonable accommodation in order to have equal access. This section of the College of Law's policies explains a student's rights and responsibilities in seeking to receive accommodations from the College of Law because of a disability. The process and procedures outlined here apply to law school classroom accommodations, exam accommodations, and accommodations related to accessing the University's facilities.

I. **Rights and Responsibilities in Requesting Reasonable Accommodations**

A. **Accommodation Request Deadlines**

1. The deadlines for students requesting accommodations is 2 weeks before the start of the academic year or semester for classroom and exam accomodations.
2. Extensions to these deadlines may be granted to students who were unable to meet the deadline due to extenuating circumstances. Accommodations are prospective; retroactive accomodations are not available. For this reason, it is important that the student timely submit requests for accommodations.

B. Accommodation Process and Procedure for Classroom and Exam Accomodations

1. A student who believes that he or she has a qualifying disability warranting accommodation for academic programs, exams or access to the University's facilities should submit their requests for accommodations through the University of Wyoming's Disability Support Services (DSS), by contacting udss@uwyo.edu or 307 766-3073 or applying through the website found here: https://www.uwyo.edu/udss/.

2. The DSS application process is required and separate from any communication with College of Law staff. Students *should not* go directly to any faculty in an effort to arrange accommodations for disabilities.

3. Once the student submits the completed application and supporting medical documentation, DSS will review the documentation to verify the existence of a qualifying and make a decision regarding the student's eligibility for services. DSS also may request additional documentation at any time or may request that the student's physician or other licensed health professional speak directly to the DSS staff.

4. Following the determination that the student has a qualified disability, DSS and the Assistant Dean of the College of Law, as the designated liaison for the College and its faculty, will consult together to make a determination regarding the student's requested accommodations related to the student's courses, exams, and access to university facilities.

5. A reasonable accommodation is an accommodation that does not impose an undue financial or administrative burden on the College of Law and does not fundamentally alter the nature of the educational service, program, or activity at the College of Law.

6. DSS is responsible for making determinations about reasonable accommodations after consulting with the Assistant Dean of the College of Law and will then notify the student by email of the decision to deny, grant, or partially grant or provide a reasonable alternative to the requested accommodations. This email is required prior to any accommodations being made.

7. Information regarding a student's disability and any accommodations provided shall be disclosed only when necessary in furtherance of the student's education or to individuals who have a need to know the information as determined by the University. As a general rule, when feasible, student anonymity will be maintained.

8. For any exam condition accommodations, DSS will notify the Assistant Dean of the College of Law who will oversee the implementation of the accommodation. DSS will also notify any other law school staff designated by the Assistant Dean of the College of Law who are needed to implement the accommodation (e.g. the designated testing coordinator, faculty etc.). Students will be provided notice of the time and place of their accommodated testing by DSS.

9. For classroom accommodations, the Assistant Dean of the College of Law will oversee implementation of the accommodations and notify the faculty of the particular course if the accommodations provided affect the conduct of the class.

10. If a student is denied eligibility for DSS or requested reasonable accommodations, the student may request a review of these determinations by the Vice President for Student Affairs consistent with the process mentioned here https://www.uwyo.edu/udss/laws-and-complaint-processes/if-and-when-you-disagree.html Students who have questions about the review process may contact DSS for more information. The Vice President for Student Affairs may consult with the Dean of the College of Law prior to making a final determination.

II. Rights and Responsibilities of the Student after Receiving Classroom and Exam Accommodations

A. A student must renew his or her request for accommodations each semester by meeting with DSS in order to determine whether new and different accommodations are necessary for the student's disability to be accommodated. Requests for classroom and exam accommodations must be made two weeks prior to the beginning of the semester. At these meetings, DSS may request that the student submit updated documentation verifying the nature and extent of the student's disability.
B. If a student's condition changes at any time, thereby affecting the nature and extent of his or her disability, the student must notify the DSS immediately and DSS will consult with the Assistant Dean of the College of Law, as the designated liaison for the College to engage in the interactive process set forth in section I(B)(4).
C. If there is a problem with any accommodations that a student receives, whether it is related to a course, an exam, or access to a facility, the student must promptly notify DSS who will coordinate with the Assistant Dean of the College of Law so that steps may be taken, to the extent practicable, to resolve the problem.
D. Communication via accommodations (including exam schedules and room assignments) will be made using the student's email account. A student is responsible for checking email on a timely basis to determine the status of any issue relating to the accommodation that has been put in place for a particular disability. If the student's disability prevents physical access to email, an alternative method of communication will be determined in consultation with DSS, the College of Law, and the student.

III. Requests for Accommodations Related to the College of Law Facilities

Any requests for disability accommodations related to the College of Law buildings or University grounds may be initiated by contacting DSS or the Assistant Dean of the College. DSS and/or the College of Law will work collaboratively regarding any requests and may involve other campus units, including but not limited to the UW Operations, in order to process and/or implement reasonable accommodations related to the College of Law facilities.

<u>Credit Hours</u>

In accordance with ABA Standard 310, one credit hour requires an amount of classroom or direct faculty instruction that is at least equivalent to fifty minutes per week for fifteen weeks (including one week for a final exam), as well as an amount of out-of-class student work that reasonably approximates two hours per week for fifteen weeks (including one week for a final exam). One credit hour for other academic activities, including simulation, field placement, clinical, co-curricular, and other academic work, requires at least an equivalent amount of work.

The College of Law faculty establishes and approves the number of credit hours awarded for each newly approved course. New course proposals must indicate both the in-class and out-of-class work that justifies the credit hours to be awarded. The curriculum committee will initially review existing courses to determine that classroom and out-of-class work meet the requirements for the awarded credit hours. The Associate Dean will thereafter periodically review course descriptions and syllabi to ensure that classroom and out-of-class work continue to meet the requirements for the awarded credit hours.

<u>Bar Subjects</u>

Wyoming has now adopted the Uniform Bar Exam, as has Colorado. Information about both bar exams can be found on the National Conference of Bar Examiners (NCBE) webpage (http://www.ncbex.org/).

DISCLAIMER: It is your responsibility to check with the Board of Law Examiners in each state in which you plan to take the bar exam for the latest information regarding bar examination subjects, application procedures, and deadlines, etc. We encourage students to begin the application process to take a bar exam well in advance. Some states provide reduced fees if students register within 15 months of entering law school.

Clinics & Practicums

For students matriculating in the fall 2016 semester and after, students are limited to a maximum of 9.0 credit hours of clinic credits. Clinic directors are allowed a maximum of 12.0 credit hours. Students will further be limited to a combined maximum of 12.0 credit hours total for clinic credits and externship credits. Clinic directors are limited to a combined maximum of 15.0 credits total for clinic credits and externship credits.

The College of Law offers six clinical programs and one practicum: Civil Legal Services; Defender Aid; Business Law Practicum; Estate Planning Practicum, Family Law; International Human Rights; and Prosecution Assistance. The clinical programs operate pursuant to Wyoming Supreme Court rules that permit third-year law students to practice law under the supervision of a COL professor or Wyoming Bar member. A student director is appointed for each program to help the faculty supervisor administer the program. (Wyoming Supreme Court, Rule 9)

The caseload of each clinic consists of actual cases and matters in Wyoming, the region, and even around the world. The Wyoming student practice rule allows student interns to make court appearances with the consent of the client. There is no simulation. The faculty supervisor is professionally responsible for the students in the program. Therefore, particular emphasis is placed on professional responsibility to the client, the profession, and the community. The response of the courts to students has been enthusiastic, both on and off the bench, and in trial and appellate courts.

Each clinical and practicum program is designed to expose students to a wide range of real experience in the practice of law. The programs are available during the academic year to third-year students and during the summer between the student's second and third years of law school. Third-year spring semester students who have not previously taken a clinic or practicum will receive a preference over those seeking a second semester in the clinic or practicum.

Students receive three credit hours per semester, are graded, and are generally required to devote a minimum of 150 hours to the program. Enrollment in the clinical programs may be limited in the interest of affording students maximum educational benefit. However, the College of Law will make sure that every interested student gains experience through a clinic, practicum, or other experiential opportunity.

Third Year Students Note: Clinic credit and externship credit may not be earned in the same semester, unless the student obtains permission from both the clinic faculty director and the externship faculty director, as well as the associate or assistant dean.

For more information on the clinic and practicum offerings, please see Legal Clinics at http://www.uwyo.edu/law/experiential/clinics/ and Estate Planning Practicum at http://www.uwyo.edu/law/experiential/practicums/.

Course Descriptions

You can find detailed course descriptions, which will be updated for each semester, on the law school website at COURSE DESCRIPTIONS (http://www.uwyo.edu/law/current/courses/courses.html). Click on the course name, and you will be able to view a detailed course description that will include information about the course, the instructor name, the semester offered, and the assessment method (e.g., exam, performance of skills, or paper).

Externships

For students matriculating in the fall 2016 semester and after, students are limited to a maximum of 6.0 credit hours of externship credits. Students will further be limited to a combined maximum of 12.0 credit hours total for clinic credits

and externship credits. Clinic directors are limited to a combined maximum of 15.0 credits total for clinic credits and externship credits.

The externship program provides second and third year students with an opportunity to learn through practice by working directly with attorneys or judges for academic credit. Externship placements are limited to judges, government agencies and nonprofit organizations, and must be pre-approved by the externship faculty director. A student may also seek externship credit by volunteering for a judge, government agency or nonprofit group that fits the criteria for externship placement but is not currently on the pre-approved list. In that case, the supervising attorney or judge must submit a proposal to the externship faculty director, for approval on a case-by-case basis. This should be done well ahead of the time that the student begins work.

For two hours of credit a student is required to work 100 hours; for three hours of credit a student is required to work 150 hours. Students may apply for one unit of credit under limited circumstances and only with the prior approval of the externship faculty director. All externs must complete a writing component as part of the program requirements. The writing does not satisfy the advanced writing requirement. Grades are awarded S/U only. A student may earn a maximum of 3 hours of externship credit per semester; provided that a student may earn a maximum of 6 credits in a summer semester. Again, a student is limited to a total of 6 hours of credit for externships in their academic career. Externs must pay their own travel expenses. Students must register for summer externship credits in the summer session. If you are accepted for an externship, you will need to register for the appropriate number of credits for an externship course, LAW 6960. There will be an online component of the externship program.

Third Year Students Note: Externship credit and clinic credit may not be earned in the same semester, unless the student obtains permission from both the clinic faculty director and the externship faculty director, as well as the associate or assistant dean.

For a list of currently approved externship offerings and the externship application please see Legal Externships at http://www.uwyo.edu/law/experiential/legal-externships/index.html.

Joint Degree Programs

JD/MA in ENR Program

A joint Juris Doctor/Master of Arts of Environment and Natural Resources degree is available to all admitted law students upon application.The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Students in this joint degree program must take 18 credits outside the law school in ENR courses, and must take 12 law school credits from a menu of ENR-related law courses to qualify for this joint degree. Students in this joint degree program must be enrolled in a minimum of 9 hours of law course work in every fall and spring semester. Students in the joint degree program must also complete a supervised research project. Additionally, nine (9) credits of approved MA coursework (see Academic Regulations) will be applied to the Juris Doctor degree. Current core courses: ENR 5100, ENR 5900, ENR 5890, ENR 5750.

JD/MBA Program

A joint Juris Doctor/Master of Business Administration program is available in the College of Law and the College of Business. This program will take approximately four years to complete. Students spend three years on-campus engaged in law studies. Typically in their second year, students will be enrolled full-time in the MBA Program, taking required core business courses during the Fall, Spring, and Summer as well as participating in additional required program activities (orientation, Experiential Leadership Program, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development activities, etc.). The MBA Capstone course will be the final course completed in the summer term for a total of 36 MBA program credits. Nine (9) credit hours of approved coursework will be transferred as elective hours to the Juris Doctor degree. Students successfully completing this lock-step program will earn dual Juris Doctor and Masters of Business Administration degrees. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Current core courses: MBAM 5102, MBAM 5104, MBAM 5107, MBAM 5202, MBAM 5204, MBAM 5207, MBAM 5208, MBAM 5209, MBAM 5305, MBAM 5330.

JD/MPA Program

A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Students in this joint degree program must be enrolled in a minimum of 9 hours of law course work in every fall and spring semester. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty. In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in specified courses in the J.D. program. Current core courses: POLS 5000, POLS 5400, POLS 5410, POLS 5440, POLS 5684, POLS 5510, POLS 5690, POLS 5080, POLS 5060, POLS 5450, POLS 5460, POLS
5480.

Nonprofessional Degree Students

Graduate students from other colleges of the University of Wyoming may be permitted to take one or more elective law courses on an S/U basis for non-law credit when the following conditions are met: the law course taken is acceptable for their degree program and the prior written approval of the professor assigned to the course and the Associate Dean or Assistant Dean has been obtained. In order to obtain audit or visitor privileges, students must obtain prior written approval of the professor assigned to the course and the Associate Dean or Assistant Dean. Anyone that is not a matriculated law student cannot take the seat of a law student in any given law course and may be administratively dropped in order to make room for interested law students. For further information and requirements contact the Associate Dean of Academic Affairs, College of Law, Dept. 3035, 1000 E. University Ave., Laramie, WY 82071.

Course descriptions may be obtained online at www.uwyo.edu/law.

Armed Forces Services

LTC Paul W. Hanson, Commander, Army ROTC
Lt Col John D. Sieps, Commander, Air Force ROTC

It has been the consistent policy of the university in cooperation with the federal government to make courses in military science and aerospace studies available on a voluntary basis to all qualified students.

Academic credits for Army and Air Force Reserve Officers' Training Corps (ROTC) are applied toward baccalaureate and graduate degrees in varying amounts depending upon the degree plan of the student and as determined by the college concerned.

Department of Military Science

Army ROTC

137 Hill Hall, (307) 766-3390
FAX: (307) 766-3383
Web site: www.uwyo.edu/armyrotc

Professor:

JONATHAN CURTIS, U.S. Military, Military Intelligence West Point B.S.; MSA Central Michigan University 2019; Professor of Militrary Science 2020.

Lecturer:

JEREMIAH SCHUCHARDT, Master Sergeant, U.S. Army; Senior Military Instructor 2019.

The Department of Military Science - Army ROTC faculty is composed of U.S. Army officers and senior noncommissioned officers. These officers hold bachelors' and masters' degrees in a variety of fields. Noncommissioned officers hold associate degrees in a variety of fields. Officers' military education includes completion of the Officer Basic Course and the Officer Advanced Course. Several faculty are graduates of the Army's Command and General Staff College and have completed military specialty schools such as: Flight School, Ranger School, Airborne School, Air Assault School, Special Forces School, Jumpmaster Course, Special Operations Training and Language School.

General Information

Army ROTC is a program which offers qualified college students the opportunity to graduate as officers and serve tours in the U.S. Army, the Army National Guard or the U.S. Army Reserve. The four-year program is divided into two parts called the basic course and the advanced course. The basic course, consisting of 8 credit hours, is usually taken during the first two years of college. No military obligation is incurred by enrolling in the basic course.

The advanced course, usually taken during the junior and senior years or during graduate school, involves 19 credit hours of study and a five-week Leadership Development and Assessment Course during the summer. Advanced course students incur a military obligation, and they receive up to $500.00 per month in tax-free subsistence throughout the academic year.

Army ROTC is not itself a major. Participants pursue the degree of their choice and take Army ROTC as an elective program. Those who complete the program may receive federal commissions from the President of the United States.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

ARMY 3010.....3

ARMY 3020.....3

ARMY 3025.....1

ARMY 3026.....1

ARMY 3030.....3

ARMY 4010.....2

ARMY 4020.....2

ARMY 4015.....1

ARMY 4016.....1

ARMY 4025.....1

ARMY 4026.....1

HIST 2020 or HP 4900.....3

Total credit hours 22

The military science minor, encompassing 22 credit hours, will prepare selected students for commissioning and establish a sound basis for their future professional development.

To be eligible for a commission, U. S. citizens must meet prescribed physical, intellectual, and moral standards in addition to completing Army ROTC studies and successful completion of Professional Military Education (PME) courses. These PME courses include written communication skills, military history and computer literacy. A two-year option is available for sophomore and junior students, students with prior military service (see below), and those completing a masters program.

In the Army ROTC classroom the student is exposed to a wide variety of subjects designed to instill confidence, self-discipline, integrity and responsibility. Students gain an appreciation for the role of national defense, and learn what a leader must be, know and do in order to gain the respect and support of their subordinates.

Skills learned in Army ROTC, including resource management, leadership and planning are valuable and complement any university major. Young commissioned officers returning to civilian sectors after military service find an abundance of career opportunities.

Uniforms, Pay and Allowances

All uniforms, books and other instructional materials required in Army ROTC are provided to basic and advance course students at no cost. The cadet uniform is the same as the U.S. Army uniform except for the distinctive ROTC insignia.

Advanced course participants are paid a tax-free subsistence allowance of up to $500.00 per month during the school year. During the summer training period students receive pay, travel, rations, quarters, clothing, and medical and dental services.

Two Year ROTC Program

The two-year program is designed for community college graduates and university students of sophomore or junior standing who did not take Army ROTC during the first two years of school. The program may also apply to seniors and graduates who have at least two years remaining in post graduate study.

To enter the two-year program, students must first attend a paid 28-day internship during the summer or be a veteran who has graduated from advanced individual training.

Special Scholarship Program

pecial Scholarship Program Two-, three-, and four-year scholarships are offered by Army ROTC. These scholarships pay full tuition, laboratory fees and a $1200 per year book fee. While on scholarship, the student receives up to $500.00 a month during the school year. In addition to active duty scholarships, Army ROTC offers scholarships to students wishing to join the U.S. Army Reserve or Army National Guard upon commissioning. These reserve scholarships also pay full tuition, laboratory fees, book fees, and up to $500.00 a month. Graduate students and undergraduate students are eligible to apply for the two- and three-year scholarships. These scholarships are awarded by the Professor of Military Science. Students do not have to be enrolled in ROTC to apply for these scholarships. Certain restrictions apply. High school juniors and seniors seeking a four-year scholarship should contact the Professor of Military Science, Army ROTC, Dept. 3167, 1000 E. University Ave., Laramie, WY 82071. College students desiring a scholarship should contact the Professor of Military Science in 154 Wyoming Hall, (307) 766-3390.

Scholarships are offered to ROTC cadets from several military associations. The Reserve Officers Association (ROA), Association of the U.S. Army (AUSA), Cowboy Battalion Alumni Association (CBAA), the United Services Automobile Association (USAA) and First Command offer annual cash awards to ROTC cadets.

Room and board scholarships are available to students who enroll in Army ROTC. Scholarship awards are based on merit and the student's potential to become a commissioned officer. The number of scholarships and dollar amount vary dependent on funds available. Room and board scholarships may only be used in UW residence halls or university apartments.

Leadership Laboratory

Leadership laboratory provides instruction that complements the classroom. This time provides practical application on subject matter taught in class. Leadership and management dynamics are inherent in this practical application. All students enrolled in a military science course must enroll in the appropriate leadership laboratory unless consent is obtained from the Professor of Military Science. Training includes land navigation, first aid, communications, basic rifle marksmanship, drill and ceremonies, decision making, squad movement and problem solving. This instruction is cadet planned and presented with immediate instructor feedback. The goals of this period are to instill self-confidence, self-discipline and responsibility in each cadet.

Land navigation skills are practiced in a variety of terrain locations near campus. The training instills trust and confidence in the cadet's ability to accurately plot and follow a compass course. Communication, such as radio, telephone and interpersonal skills, are taught and practiced. Marksmanship is taught in the Half-Acre rifle range and on other ranges, weather permitting. Finally, drill and ceremonies teaches methods of organizing and moving groups of individuals in an orderly manner resulting in team building while establishing esprit de corps.

Veterans' Option

Veterans of active military service and members of the National Guard or U.S. Army Reserve may qualify to go directly into the advanced Army ROTC program if they will be an academic junior. In these cases, basic training fulfills the requirement of the first two years of ROTC (Basic Course). Academic freshmen and sophomores are not required to take basic course classes but are highly encouraged to do so. It is common for members of the National Guard to study to become commissioned officers via the ROTC program. The Simultaneous Membership Program (SMP) is a formalized program for advanced course Guard members and Reservists to combine their unit training with ROTC training. In many cases the SMP program will result in increased financial benefit to the individual.

Military Obligation

There is no military obligation for taking the basic course, freshman and sophomore years. When an individual starts the advanced course, he or she incurs an obligation. The nature of that obligation depends upon whether the individual elects to serve in the National Guard, the Army Reserve or the active Army, and whether the individual has an Army scholarship. Those who desire guard or reserve duty may contract specifically for that purpose. The guard and reserve obligation is six years of monthly training meetings and two years of inactive ready reserve (IRR). The active duty obligation is four years Active duty, and four years of inactive ready reserve (IRR).

Extracurricular Activities

Army ROTC offers a variety of activities which are designed to promote an interest in the military and provide relaxing, enjoyable leisure activities for cadets.

The Cowboy Battalion has its own Ranger Challenge team, which is a varsity-level team that competes with other universities in military skills such as orienteering and soldier skills. The battalion also has a cannon crew, mounted color guard, 10-miler team, Bataan Death March team, and participates in intramural sports.

The department periodically sponsors other activities such as rapelling demonstrations, ranger weekends, battlefield tours, leadership exercises and other adventure training, such as mountaineering, land navigation exercises, patrolling and wilderness survival.

Suggested Course Sequence

FRESHMAN YEAR:Fall Hrs.

ARMY 1010 2

Lab (mandatory).....0

PEAC 1272 (voluntary).....1/2

ARMY 1011 1

ARMY 3060 (voluntary).....1

FRESHMAN YEAR: Spring Hrs.

ARMY 1020.....2

Lab (mandatory).....0

ARMY 1012 1

SOPHOMORE YEAR: Fall Hrs.

ARMY 2010.....2

Lab (mandatory).....0

ARMY 2011.....1

ARMY 2060 (voluntary).....2

ARMY 3070 (voluntary).....2

SOPHOMORE YEAR: Spring Hrs.

ARMY 2020.....2

Lab (mandatory).....0

AMRY 2012.....1

HIST 2020 (mandatory).....3

JUNIOR YEAR: Fall Hrs.

ARMY 3010.....3

Lab (mandatory).....0

ARMY 3011 1

ARMY 3025 (mandatory).....1

ARMY 3070 (voluntary).....2

ARMY 3015.....1

JUNIOR YEAR: Spring Hrs.

ARMY 3020.....3

Lab (mandatory).....0

ARMY 3012.....1

ARMY 3026 (mandatory).....1

ARMY 3016 (mandatory).....1

SENIOR YEAR: Fall Hrs.

ARMY 4010.....2

Lab (mandatory).....0

ARMY 4011.....1

ARMY 3030 (voluntary).....3

ARMY 4025 (mandatory).....1

ARMY 4015 (mandatory).....1

ARMY 4050 (voluntary).....2

ARMY 3070 (voluntary).....2

SENIOR YEAR: Spring Hrs.

ARMY 4020.....2

Lab (mandatory).....0

ARMY 4012.....1

ARMY 4026 (mandatory).....1

ARMY 4016 (mandatory).....1

Department of Aerospace Studies

Department of Aerospace Studies
110 Wyoming Hall, (307) 766-2338
FAX: (307) 766-2357
Web site: www.uwyo.edu/airrotc

Professor:

ANTHONY KUSEK, Lt. Colonel, U.S. Air Force; B.S. Parks College 1995; M.A. Webster University 2007; Professor of Aerospace Studies 2019.

RICHARD LANDSVERK, Major, U.S. Air Force; B.S. Thomas Edison State College 2008; M.A. Bellevue University 2012; Professor of Aerospace Studies 2019.

SAMUEL R. SHEARER, Lt. Colonel, U.S. Air Force; B.S. University of Utah 1996; M.S. Troy State University 2003; M.A. Naval Postgraduate School 2004; Ph.D. 2013; Professor of Aerospace Studies 2016.

Air Force Reserve Officers' Training Corps (AFROTC) provides University of Wyoming students a path toward earning a commission as an officer in the United States Air Force. The currucilum provides college students a solid understanding of the leadership and military fundamentals an Air Force officer requires. AFROTC cadets supplement their normal university coursework with studies in Air Force fundamentals, history, leadership, and national security affairs. In addition, cadets have the opportunity to learn about various careers in the Air Force through their studies, guest lectures, base visits, and other military training opportunities. While enrolled in AFROTC, the Air Force provides uniforms, AFROTC textbooks, and the necessary Air Force equipment. Upon successful completion of the program and earning their bachelor's degree, cadets are commissioned as 2nd lieutenants in the U.S. Air Force.

Application and enrollment in the program is voluntary. Students should simply register for the appropriate Air Force (AIR) courses. In addition, prospective cadets will need to complete an application package upon arrival at the detachment in order to ensure minimum qualifications for military service. Contact the AFROTC Department for additional details or with any questions regarding registration. All university students, both male and female, are eligible to apply for admission in the program.

Four-Year Program

The four-year program is divided into two phases. The first two years comprise the General Military Course (GMC) consisting of one class period (1 hour) per week in the classroom and one class period (2 hours) per week in leadership laboratory. The GMC is a prerequisite for continuation in the Professional Officer Course (POC), the last two years in the program. Other prerequisites include passing the Air Force Officer Qualifying Test (AFOQT), maintaining at least a minimum grade point average of 2.0 (GMC) and 2.5 (POC), having the physical qualifications for an Air Force commission, and participating in a four-week field training session. The advanced course consists of one class period (3 hours) per week in the classroom and one class period (2 hours) per week in leadership laboratory.

Three-Year Program

Students may enroll in ROTC on a three or three and one-half year program where the GMC component is shorter. To complete the GMC requirements, the student must simultaneously enroll in AIR 1000 and AIR 2000 courses to complete all four academic terms of the GMC program. After successfully completing the GMC program and Field Training, students may enter the two-year POC program. This program is especially suitable for sophomores and junior college transfers. Students that participated in high school Junior ROTC, or have prior-enlisted service, can apply documented participation toward a portion of the GMC requirement.

Leadership Laboratory

The concept of leadership laboratory is to provide leadership training experiences which will improve a cadet's ability to perform as a USAF officer. Leadership laboratory is largely cadet planned and directed.

Field Training

Field training is a four-week program conducted in residence at an Air Force base during the summer.

While at field training, each cadet is provided subsistence, uniforms/equipment, and receives approximately $28.00/day plus reimbursement for travel to and from the field training base.

Financial Benefits

Freshmen and Sophomores on AFROTC scholarships receive $300 and $350, per month, respectively. Juniors enrolled in the Professional Officers Course receive $450 per month and seniors $500 per month tax-free during the school year for subsistence. Uniforms, required texts and all necessary Air Force equipment are furnished by the government. In addition, all POC and scholarship cadets are allowed to travel anywhere in the continental United States on military aircraft (on a space available basis).

Special Scholarship Program

Two-, three- and four-year scholarships are offered by AFROTC on a competitive basis. These scholarships pay for a $900 book allowance per year, tuition (amount dependent on type of scholarship awarded), fees and other required expenses except room and board. The university and the State of Wyoming offer additional room and board funding to Air Force ROTC cadets (who have or have not been awarded an Air Force ROTC scholarship) and reside in university housing. High School seniors seeking a four-year scholarship should contact their high school counselors or the Recruiting Flight Commander, AFROTC Detachment 940, Dept. 3005, 1000 E. University Avenue, Laramie, WY 82071; telephone (307)766-3710; email at airforce.rotc@ uwyo.edu, early in the fall of their senior year. Sophomore or transfer students interested in competing for a scholarship should contact the Recruiting Flight Commander before the fall semester prior to junior standing.

Military Obligation

Students enrolling in the first two years of the AFROTC Program (the General Military Course) are not obligated to military service of any kind, unless on an Air Force scholarship their sophomore year. Cadets accepting an AFROTC scholarship and those entering the Professional Officer Course become members of the inactive reserve of the United States Air Force. Upon being commissioned a Second Lieutenant in the Air Force, graduates in nonflying career fields agree to serve four years on active duty; pilot candidates agree to serve on active duty for 10 years after completion of flight training; RPA, navigator, and air battle manager candidates agree to serve on active duty for six years after completion of their respective training.

Extracurricular Activities

To familiarize students with Air Force life and social customs, the AFROTC Program offers on a voluntary basis a wide range of extracurricular activities. Civil Air Patrol gives cadets an opportunity to experience flying first hand with a trained instructor pilot. The Arnold Air Society, a national professional honorary society, is a service organization active on campus. The color guard supports various university and local activities. Visits to Air Force bases across the nation provide insight into the function of Air Force operational units. Throughout the year, AFROTC teams participate in the university intramural sports program, while cadet-sponsored social events build the spirit of comradeship inherent in military life.

Haub School of Environment and Natural Resources

Helga Otto Haub School of Environment and Natural Resources

John Koprowski, Dean
Bim Kendall House, 804 E. Fremont St.

Phone: (307) 766-5080 FAX: (307) 766-5099
Web site: www.uwyo.edu/haub

Degrees Offered

The Haub School offers undergraduate and graduate degrees, concurrent majors and minors, certificates, and a graduate degree in partnership with the College of Law:

Bachelor of Science in Environmental Systems Science (for baccalaureate students)

Bachelor of Science in Environment & Natural Resources (for baccalaureate students, required concurrent major)

Environment & Natural Resources concurrent major (for baccalaureate or master's students earning a degree from UW)

Bachelor of Science in Outdoor Recreation & Tourism Management (for baccalaureate students)

Environment & Natural Resources minor (for baccalaureate, master's, and doctoral students)

Sustainability minor (for baccalaureate students)

Outdoor Leadership minor (for baccalaureate students)

Master of Science in Environment, Natural Resources & Society (for master's students)

Master of Arts in Environment & Natural Resources (J.D./M.A. for law students only)

Collaborative Practice minor (for master's and doctoral students)

Program Admission

Undergraduate students will apply for admission to the University of Wyoming, and then declare a major or minor within the Haub School at any point during their course of study. To declare a major or minor, students must meet with a Haub School academic advisor.

Graduate students interested in the concurrent major or minor in Environment & Natural Resources (ENR) will apply for admission to a primary degree program at the University of Wyoming. Once accepted to their primary graduate program, students must complete an additional online process to confirm their enrollment in the ENR major or minor.

A one-page Statement of Purpose is required to apply. Visit the Haub School website at https://www.uwyo.edu/haub for details.

Applicants to the M.S. in Environment, Natural Resources & Society must apply to the University of Wyoming. Applications for graduate assistantships should be directed to the Haub School. Current application requirements are available online.

Applicants to the J.D./M.A. in ENR must apply to both the College of Law and the Haub School. Admission to the joint degree program is contingent on acceptance to the College of Law. Current application requirements are available online.

More information, including complete curricula for each academic offering, is available from the Haub School.

Haub School Requirements for Undergraduate Programs

All students declared in undergraduate Haub School programs, including majors and minors, must earn a C or better in all Haub School program requirements. Students enrolled in multiple Haub School programs must earn 12 credits unique to each program.

Undergraduate students earning a B.S. in Environmental Systems Science, a B.S. in Outdoor Recreation & Tourism Management, and/or a B.S. in Environment & Natural Resources (plus a concurrent major in another field) must also fulfill the additional following Haub School Requirements:

- Complete two courses (totaling a minimum of 6 credit hours), one to meet the U.S. Diversity (ASD) requirement and one to meet the Global Awareness (ASG) requirement. Courses approved to meet these requirements are searchable within WyoRecords under the Browse Classes feature.

- Meet all University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program (USP) requirements and maintaining a minimum 2.0 cumulative GPA for good academic standing and graduation.

National Outdoor Leadership School

Administered by the Haub School of Environment and Natural Resources
Bim Kendall House

Haub School Advising Center
Phone: (307)766-5080 FAX: (307)766-5099; Web site: www.uwyo.edu/haub

The University of Wyoming (UW) and National Outdoor Leadership School (NOLS) Articulation Agreement provides the opportunity for UW students to receive UW academic credit for NOLS courses.

When NOLS students step into the world's wild places, they bring not only their backpacks, but also more than 40 years of experience in expeditioning. NOLS founder Paul Petzoldt's idea was simple: take people into the wilderness for an extended period of time, teach them the right things, feed them well and when they walk out of the mountains, they will be skilled leaders. The core of his idea was the extended expedition, one of sufficient length that a person could learn and practice the skills over and over again. That is the backbone of every NOLS course and today the school is widely recognized as the world's leader in the extended expedition, from two weeks to twelve.

This articulation agreement covers domestic and international NOLS courses. This agreement also covers some individual shortterm courses (14 days or less; including mountaineering, rock climbing, sailing, kayaking, skiing, snowboarding, and backpacking) and the Wilderness First Responder (WFR) course.

Application/Eligibility

Current UW students, or students who have been fully or conditionally admitted to UW may receive articulated NOLS credit. Students who have already taken a NOLS course cannot receive credit retroactively (i.e. if a student embarked on a NOLS course and requested to get credit after the course was completed).

Credit and Credit Transfer

UW credit hours will be awarded in the approved courses, which require prior approval. Upon completion of the NOLS courses, provided a grade equivalent to a UW grade of C or better was obtained at NOLS. These UW course grades will be included in your UW GPA. Students who withdraw or are expelled from a NOLS course may receive an incomplete or an F for all enrolled UW credit.

Students should be aware that for internship credits to be awarded, additional academic work requirements determined by the internship course will need to be met. Those additional requirements vary between academic programs and amount of credit desired, but may include a satisfactory evaluation from NOLS, a weekly journal, a substantial written report, and an oral presentation. Internship requirements are established prior to your participating in the NOLS course.

Academic Advising

Prior to participating in a NOLS course for UW credit, students must make an appointment with the Haub School by emailing haub.school@uwyo.edu or calling (307) 766-5080. If your academic program is outside of the Haub School, students should also meet with their assigned academic advisor to determine if these courses will count towards their major. The Haub School will approve the student's schedule, provide the appropriate course numbers, and liaise with the NOLS Registrar.

Financial Arrangements

Each UW student will pay to NOLS:

- The NOLS tuition and related fees (any changes to be advised in writing by NOLS at least three months in advance of the change coming into effect), related fees would include equipment deposit;
- Complete medical and evacuation health insurance;
- Other fees (e.g. tuition protection program, local transportation, and gear purchases), air transportation and additional living expenses will be paid directly by the student to the provider of the service.

Each UW student will pay to UW:

- The published per credit registration fees to register UW credits earned at NOLS

Financial Aid

Students enrolled in the NOLS program may apply their financial aid to the cost of the program if they are enrolled as a full-time degree seeking student at the University of Wyoming. To do so, please work with the UW Office of Scholarships and Financial Aid.

Rules, Law, and Regulations

UW students studying at NOLS will be bound by all rules, regulations and by-laws in operation at NOLS. In addition, since UW students remain enrolled as degree candidates at UW, they must also adhere to UW standards of conduct, rules and regulations. UW and NOLS both abide by the Federal Right to Privacy Act (FERPA).

Steps to Follow

1. Determine the NOLS course that best fits your needs/interests and/or goals online at: www.nols.edu/courses
2. Make an appointment with an advisor from the Haub School to determine the UW academic credit that best suits your degree program by e-mailing haub.school@uwyo.edu or by calling (307) 766-5080.
3. Meet with your academic advisor (if your academic program is not in the Haub School).
4. Apply and be admitted into NOLS.
5. Prior to leaving for your NOLS course, enroll in the credit offered for the course.
6. Secure your financial aid (if any) with the UW Office of Scholarships and Financial Aid.
7. Attend and successfully complete the course (grade C or better).
8. Grades will be posted the semester of completion of your course.

UW Credit Options for NOLS

UW recognizes the following credit options for taking a NOLS course:

Short Courses (less than 14 days)

Students may be eligible to complete 2 Hours of UW credits in the following course(s).

- ENR 4960 - Field Studies in: Credits: 1-6 **

Quarter Length Courses (14-65 days)

Students may be eligible to complete up to 9 hours in the following courses.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **

Semester & Year-long Courses (more than 65 days)

Students may be eligible to complete up to 12-24 hours in the following courses.

For year-long courses, independent study credits are also available.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3 ***

Note:

**There are additional course requirements for 4000-level NOLS credit. Syllabi and course expectations will be shared upon enrollment.
***For courses with a Wilderness First Responder component only.

Information Literacy

Coe Library 304
Phone: (307) 766-5313

The University Libraries offer research assistance and information literacy instruction to students and faculty. Librarians provide customized class orientations to information sources in every discipline, as well as individual research consultations. Students needing research help may call, text, email, instant message, or visit any library branch.

The University of Wyoming addresses information competencies utilizing the Framework for Information Literacy for Higher Education as approved by the Association of College & Research Libraries (ACRL) and endorsed by the American Association for Higher Education. Librarians collaborate with teaching faculty in addressing these information competencies in course assignments or lectures. Information literacy is the ability to recognize and define the need for information, then locate, evaluate, and use that information effectively and ethically.

Information literacy learning outcomes are included in University Studies First Year Seminar (FYS) and Communication (COM) courses and are similar to the critical thinking learning outcomes in the H, PN, and V courses.

The Libraries also offer credit courses to help students improve research skills and to meet the Communications 2 requirement of the University Studies Program.

Learning Outcomes

We expect that students completing LBRY courses will become knowledgeable consumers of information through learning how to:

1. Recognize and define the need for information;

2. Efficiently locate information in the library or on the Internet;
3. Evaluate the quality of information;
4. Utilize information effectively, ethically, and legally.

Librarians

DAVID D. KRUGER, B.S. South Dakota State University 1991; B.S.Ed. Minot State University 1994; M.A. Kansas State University 1996; M.L.S. University of Missouri at Columbia 1998; Librarian 2016, 1998.

Associate Librarians

STEPHEN C. BOSS, B.M. Simpson College 1983; B.A. 1984; M.L.S. University of Denver 1985; M.A. 1986; Associate Librarian 2008, 2002.

KAIJSA J. CALKINS, B.A. University of Washington, Bothell 2001, M.L.I.S. University of Washington, Seattle 2004; Associate Librarian 2012, 2006.

JANICE GROVER, B.A. University of Wyoming 2005; M.L.S. Emporia State University 2009; M.A. University of Wyoming 2017; Associate Librarian 2021.

Assistant Librarians

SAMANTHA PETER, B.A. University of Wyoming 2016; M.S.I.S. University of Texas at Austin 2018; Assistant Librarian 2018.

JESSICA RARDIN, B.A. Beloit College 2013; M.L.I.S. University of Wisconsin-Milwaukee 2021; Assistant Librarian 2021.

SHANNON SMITH, B.A. Southern Oregon University 2007; M.L.I.S University of Washington 2019; Assistant Librarian 2023.

School of Energy Resources

Energy Innovation Center, RM 301
Phone: (307)766-6879

Holly Krutka, Executive Director
Website: https://www.uwyo.edu/ser/

The School of Energy Resources facilitates interdisciplinary academic and research programs in engineering and science, economics, land management, and environment and natural resources policy to address critical energy-related issues faced by our society.

Our mission is to leverage and add to the already significant energy-related talent and resources in the University of Wyoming colleges to develop human resources, know-how, and technical solutions to ensure a secure and sustainable energy future for the state, region, and nation.

The University of Wyoming (UW) School of Energy Resources (SER) was created in 2006 by the Wyoming Legislature through State Statute 21-17-117. Our goal is to enhance the university's energy-related education, research, and engagement. SER directs and funds cutting-edge energy research and technology development, which integrates

with the formulation and conduct of academic programs at UW and bridges academics and industry through targeted engagement efforts. The bridges formed between academics and industry ensure programs are relevant, current, and deliver impact and high value to stakeholders and the state. Since its inception in 2006, SER has maintained flexibility in its focus and structure to meet the changing needs of Wyoming's energy industries and the state's economy which is now more critical than ever.

Emeritus Faculty:

SER Professor of Chemistry and Warren Chair of Energy and Environment BRUCE A. PARKINSON, B.S. Iowa State University 1972; Ph.D. California Institute of Technology 1977; SER Professor of Chemistry 2008.

Professors:

SER Professor of Energy Economics TIMOTHY J. CONSIDINE, B.A. Loyola University 1975; M.S. Purdue University 1977; Ph.D. Cornell University 1981; SER Professor of Energy Economics 2008.

SER Professor of Mathematics CRAIG C. DOUGLAS, A.B. Chicago University 1977; M.S. Yale University 1978; M.Phil. 1980; Ph.D. 1982; SER Professor of Mathematics 2008.

SER Professor of Chemical and Petroleum Engineering and the Carrell Endowed Chair MAOHONG FAN, B.S. Wuhan University of Science and Engineering, 1984; M.S. Beijing University of Science and Technology, 1992; Ph.D. Chinese Academy of Sciences, 1997; Ph.D. Iowa State University, 2000; Ph.D. Osaka University 2003; SER Professor of Chemical Engineering 2015, 2008.

SER Professor of Geology and Geophysics and John and Jane Wold Centennial Chair in Energy JOHN P. KASZUBA, B.S. Beloit College, 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines, 1997; SER Professor Geology & Geophysics, 2019, 2008.

SER Professor of Geology and Geophysics SUBHASHIS MALLICK, B.Sc. Indian Institute of Technology 1976; M.Sc. 1978; Ph.D. University of Hawaii 1987; SER Professor of Geology & Geophysics 2008.

SER Professor of Law and Occidental Chair in Energy and Environmental Policies TARA RIGHETTI, B.A. University of Colorado Boulder 2005; J.D. 2007; SER Professor of Law 2020, 2017, 2014.

SER Professor of Geology and Geophysics and Wyoming Excellence Chair DARIO GRANA, B.S. University of Pavia, 2003; M.S. 2005; M.S. University of Milano Bicocca, 2006; Ph.D. Stanford University, 2013; SER Professor of Geology and Geophysics 2022, 2018, 2013.

SER Professor of Environment and Natural Resources BRYAN LEONARD, B.A. Hillsdale College, 2010; M.S. Montana State University, 2012; Ph.D. University of California, Santa Barbara, 2016. SER Professor of Environment and Natural Resources 2024.

Associate Professors:

SER Associate Professor of Geology and Geophysics PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; SER Associate Professor of Geology and Geophysics 2014, 2008.

Assistant Professors :

SER Assistant Professor of Soil Sciences

Academic Professional:

SER Professional Land Management Director KRISTEN PRITCHETT, B.B.A. Texas A&M University, 2009; MREF, Texas A&M University, 2010; Master of Positive Psychology and Educational Counseling, University of Missouri, 2016.

SER Energy and Environmental Systems Director RANDALL VIOLETT, B.S. Montana State University, 1986; M.S. Montana State University, 1996; Ph.D. University of Wyoming, 2012.

SER Student Success and Experiential Learning Director ASHLI TOMISICH, B.S. Oklahoma Christian University, 2008; J.D. University of Wyoming, 2011; Ph.D. University of Wyoming, 2023.

Adjunct Professors:

ERICA BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

BENJAMIN COOK, B.S. University of Wyoming 2003; Ph.D. 2011; Associate Lecturer/Enhanced Oil Recovery Institute 2012.

MARY LOU DUNZIK-GOUGAR, B.S. Cedar Crest College; M.S. Pennsylvania State University; PhD. Pennsylvania State University; Associate Dean and Professor of the College of Science and Engineering and ISU Reactor Administrator.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of Wyoming 2013; Associate Professor of Energy and Petroleum Engineering 2022, 2016

TEMPLE STOELLINGER, B.S. University of Wyoming 2004; J.D. University of Wyoming 2010; Associate Professor of Law & Haub School 2020, 2015 and Wyoming Excellence Chair.

JONATHAN NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineering 2012, 1997.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

HAIBO ZHAI, Roy & Caryl Cline Endowed Chair in Engineering, Environment, and Natural Resources, B.S. Xi'an University of Technology 1999; M.S. Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

Accreditation

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education. In addition, the Professional Land Management Concentration is one of only a few programs accredited nationally by the American Association of Professional Landmen.

Graduates from the PLM program are afforded the opportunity to sit for the Registered Landman exam. Individuals with certification can increase their salary by 20% on average. Visit *landman.org* to learn more.

SER Vision Statement

SER pursues the creation, sharing, and implementation of technology and knowledge for sustainable economic production of Wyoming's natural resources to generate additional employment and revenue opportunities for the state that include supply of clean energy and materials and products.

SER Mission Statement

The School of Energy Resources' academic mission is to ensure students within its interdisciplinary academic programs can illustrate a foundational understanding of fundamentals relative to energy companies and systems. In order to prepare students to meet the demands of the modern-day workforce, students will utilize critical thinking skills, negotiation techniques, and problem-solving methods applicable to a diverse array of energy projects.

Program Admission

Undergraduate students will apply for admission to the University of Wyoming and then declare a major and concentration, the minor, or a certificate within SER at any point during their course of study. To declare a major and concentration or a certificate, students must meet with an SER representative. Any student with a 2.0 GPA can add the SER minor at any time without meeting with an SER representative.

One of the most important challenges of the 21st century will be to develop and manage energy resources in a sustainable manner. Projections show energy consumption worldwide will increase nearly 50 percent by 2035. And half of the leadership in the energy industries is expected to retire in the next five to ten years.

The future of energy will be characterized by increasing knowledge, relentless change, and technological innovation. As global energy industry increases in complexity, demand will dramatically grow for professionals with a multidisciplinary, entrepreneurial skillset. Future leaders must understand complex technology within the context of business, legal, social, and public policy in order to create comprehensive and sustainable solutions.

The Energy Resource Management and Development (ERMD) B.S. program is designed to fill this need through a combination of rigorous courses, real-world internships, and undergraduate research experiences. The curriculum balances depth of learning with the breadth of understanding to train graduates for sustained competitive success in the energy workforce at the frontiers of knowledge and for self-directed, life-long learning. Students learn to focus on continuous improvement, constant assessment, and the importance of a sense of urgency and consideration of profit motive in the energy industry.

Our program emphasizes career planning and provides constant one-on-one guidance and assistance to ensure optimal workforce placement. Students are strongly encouraged to complete an industry internship (the minimum GPA requirement is typically 3.000). Opportunities are also available for undergraduate research, a study abroad experience, or a summer field course. Multiple events during the year connect students to energy industry professionals.

General Policies

- A minimum 2.00 UW GPA is required to apply for the minor and the certificates.
- It is the student's responsibility to monitor requirements for the minor and the certificates, along with their assigned advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the major and minor must be passed with a grade of "C" or better.

Student Learning Outcomes

The School of Energy Resources was created in 2006 to enhance the University of Wyoming's energy-related education, research, and outreach. The Energy Resource Management and Development Program is designed to meet the demands of the energy workforce and enhance social literacy related to complex energy issues. Competency-based learning that integrates problem-solving, critical analysis of uncertain and complex issues, and constant improvement in performance are overarching components of our undergraduate program.

Energy Resource Management and Development B.S. Program and Energy Resource Management Minor Learning Outcomes:

- Identify or describe fundamental concepts of energy systems.
- Illustrate a foundational understanding of business fundamentals relative to energy companies, including organizational structure, management, entrepreneurship, and international commerce.
- Make use of critical thinking and problem-solving methods within a written group energy project.

Energy and Environmental Systems Concentration and Energy and Environmental Systems 3+3 Concentration Learning Outcomes:

- Outline the skills in environmental monitoring and compliance.
- Explain energy regulation and management.
- Demonstrate the necessary skills related to the physical and social science dimensions of sustainability.

Professional Land Management Concentration and Professional Land Management Concentration 3+3 Learning Outcomes:

- Apply concepts and skills to real-world problems to gain practical understanding and experience.

- Identify and navigate a valid real property transaction from contract to transfer of title.
- Define and navigate the legal and regulatory hurdles for energy development on federal, state, and fee lands.

Carbon Capture Utilization and Storage Learning Outcomes:

- Students will identify geological criteria for site selection, geophysical models of the subsurface for characterization and monitoring and minimizing risks related to transport and guaranteeing long-term storage of fluids in the subsurface.
- Define and navigate the legal and regulatory hurdles for energy development/environmental challenges on federal, state, and fee lands.
- Build techno-economic models capable of analyzing energy projects.
- Students will demonstrate the process necessary to effectively communicate with stakeholders, the general public, and stakeholders of a CCUS project to ensure concerns are explored and different communication methods considered based on the audience.

Land Administration Learning Outcomes:

- Identify and navigate a valid real property transaction from contract to transfer of title.
- Explain energy, natural resources, or agricultural regulation and management.
- Describe content and implications of past and current ENR, Ag, and property policies/laws.

University Honors College

Guthrie House

Peter Parolin, Dean
Phone: (307) 766-4110
Web site: uwyo.edu/honors

The Honors College provides academically ambitious students with a series of curricular and co-curricular opportunities. Through these opportunities, students gain the breadth of knowledge needed by citizens, professionals, and family members to be effective in a lifetime of stimulating and enriching pursuits. Honors students learn to write cogently for a variety of audiences in their academic disciplines and beyond. They learn to locate and use reliable information and trustworthy opinion. Through appropriate coursework, they learn how to become engaged citizens and to understand the ethnic and cultural diversity of America and the world. They learn the purposes and values of the arts, humanities, sciences and social sciences. The Capstone Project is a sustained research or creative activity through which students demonstrate what they have learned: to formulate a project independently, to develop the intellectual and creative means to complete it, and to write and speak effectively about their work. The Capstone Project is frequently used as evidence of critical thinking in graduate and career applications.

Honors College Learning Outcomes

Students graduating from the Honors College will be able to: (1) engage in problemsolving, research, and creative pursuits that utilize an interdisciplinary approach (2) articulate the value of international and diversity-focused perspectives (3) develop their own styles of leadership and service and identify meaningful opportunities for engagement in these areas and (4) create intentional pathways through career development, including utilizing internship opportunities.

Honors College Admissions

The Honors College seeks well-rounded, ambitious, and curious learners and leaders. Students are invited to apply to the college prior to their first year. First year applicants should apply to the Honors College when submitting their general application to UW. The Honors College admissions committee considers academic performance and test scores holistically alongside an application essay and high school transcript.

Students admitted into the Honors College who are College of Engineering majors will automatically be accepted as Honors College Engineering students.

The Honors College reviews applications on a rolling basis. Students are admitted to the Honors College only after they have been accepted to UW. Incoming, continuing, and transfer students who are interested in applying to Honors should consult our Admissions page: https://www.uwyo.edu/honors/applications/

The Honors College also welcomes application from new transfer students. Transfer students entering the Honors College typically have an overall college GPA of 3.25 or higher. The college also admits transfer students and current UW students with at least three semesters remaining prior to graduation.

To maintain good standing in the college, a student must achieve a 3.0 GPA at the conclusion of the student's first year of study. A 3.25 GPA at the conclusion of the student's second year of study is required, with this standard remaining throughout their academic career. Interested high school seniors and transfer students are encouraged to come by the Honors College or to write to the Dean, The Honors College, Dept. 3413, 1000 University Ave, Laramie, WY 82071. The email address is honors@uwyo.edu.

Scholarships

The Honors College supports UW in financial aid packages for students. In keeping with the vision of Honors to facilitate an international experience, Honors provides scholarships to assist with study abroad. Fellowships for supporting research or creative projects for the senior thesis may also be available.

Program Requirements

To earn a minor in Honors, Honors students must complete a total of five courses in Honors and a Capstone Project, and complete the First-Year and Advanced Honors SOAR badge requirements. They must also graduate with a 3.25 GPA. Students who transfer to UW or join Honors as continuing UW students may have some of their required Honors courses and SOAR requirements waived.

The Honors curriculum immerses students in multi-disciplinary inquiry. Students begin by taking the First Year Colloquium, a two-semester course sequence that takes a complex topic - for example, *Dreams and Reality - or- What Does it Mean to be a Human* and explores it with readings based in the humanities, arts, sciences, and social sciences. The course includes visits to the theatre, the Art Museum, and other UW resources, building community while learning about UW. Thereafter, students enroll in three additional courses: an Honors Non-Western Perspectives course and six hours of upper-division coursework in Honors that emphasize interdisciplinarity. At the upper division, it is strongly recommended that students take at least one Honors course per year. Throughout their Honors academic track, students will complete each level of the Honors SOAR Badge.

The Honors experience concludes with a Capstone Project, either a paper or project, done under faculty mentorship and presented publicly. This requirement ensures that students gain creative or research experience in an area of their interest. These projects often lead to graduate studies or a special career path.

Honors College Minor Curriculum

Specific details about required Honors College coursework can be found at:

Honors College Minor Curriculum

Honors College SOAR Badge requirements

Students are required to complete each level of the Honors SOAR Badge program. Assistance is available from the Honors College.

Honors College SOAR Badge Requirements

Capstone Project (Creative or Research-based)

- Students are not required to register for a specific course to complete the Capstone Project. There is no specific Capstone Project course; students complete the project independently in coordination with a faculty mentor.
- Honors offers optional research and capstone methods courses (i.e. HP 4990) that prepare students for independent capstone projects and in some cases work directly on those projects.
- Honors does offer an optional independent study course if desired. Up to 6 hours of credit in the optional HP 4976 - Independent Study are allowed.
- HP 4976, HP 4990, and any other research methods courses contribute to the capstone projects. As such, they do not count toward required Honors coursework or USP requirements.
- Students may be pursuing a major that requires a senior or capstone project, and and a major-specific project may also meet the requirement for the Honors College Capstone Project. Please contact the Capstone Project Coordinator for details. Email: honorscapstone@uwyo.edu

Honors College Additional Requirements

Students must also gradute with a 3.25 cumulative UW GPA.

Successful completion of the program is indicated on transcripts and diplomas, and seniors are recognized at graduation ceremonies.

Priority registration for enrollment in Honors courses is given to Honors College students, although non-Honors students with a 3.25 GPA or with permission of the instructor are eligible and encouraged to enroll once the general registration period begins, if space is available.

Honors College Advising

The Honors College offers supplemental advising that supports the work that students do with their primary major advisors. Honors Advising instructs students on Honors curriculum requirements and helps students select their Honors courses as well as take advantage of special Honors College opportunities. Students cannot register for Fall or Spring classes without meeting with their primary major advisor.

UWYO

UWYO courses are designed to help students acculturate to college life and coursework and learn key academic skills. Course content is combined with training in critical reading, academic writing, research, formal presentation, and many other emphases. UWYO courses have low student-teacher ratios in an effort to help students experience richer connection with the instructor and students in the course. Most UWYO courses imbed intellectual self-awareness within the course goals. Several UWYO courses are part of UW learning communities and provide additional opportunities for students to engage with and work together in their cohort.

Advising Career Exploratory Studies

222 Knight Hall

Richard Miller, Interim Director
Phone: (307) 766-2398 FAX: (307)766-2089
Web site: www.uwyo.edu/aces/index.html

Success and Engagement Programs

105 Coe Library

April Heaney, Director
Phone: (307) 766-3448
Web site: www.uwyo.edu/learn

STEP

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB><Q]).

STEP courses are housed within the Learning Resource Network (LeaRN) Program and comprise first-year and academic success courses aimed at supporting students in college research, written and professional communication, major and career exploration, and general transition strategies. STEP courses are often embedded in first-year programs including Fall Bridge, First-Year Experience, First-Year Interest Groups (FIGs), and First-Year Seminars.

Global Engagement Office

(307) 307-766-3151
Web site: uwyo.edu/global

The Global Engagement Office (WyoGlobal) is the home of internationalization at the University of Wyoming. It includes the Vice Provost for Global Engagement, the Center for Global Studies, International Students & Scholars, Education Abroad, and the English Language Center. Whether recruiting and supporting international students, providing exchange and study abroad opportunities, facilitating global partnership development, coordinating immigration for new international hires, or assisting with visiting dignitaries, we support the entire UW campus community in achieving their internationalization goals. Stop by and visit us in the Cheney International Center to learn

more about the programs and services we offer to the UW campus community to promote global citizenship, inform visitors, and communicate with our partner institutions abroad.

English Language Center

Cheney International Center 28

Isadora Helfgott, Vice Provost for Global Engagement
Phone: (307) 766-3630
Web site: http://www.uwyo.edu/study-iep-esl

Our Mission

The English Language Center serves the University of Wyoming community by preparing speakers of English as a Second Language for future academic and career successes. We seek to fully engage students in campus and academic life through communicative language instruction and intercultural experiences.

IEP Conditional Admission: Conditional admission is available for undergraduate applicants who are academically eligible but have low language proficiency scores. Prospective students should complete two applications for conditional admission consideration-one for the IEP and one for a UW degree program. Only one application fee is needed. Contact us directly if you are interested in this option: elc@uwyo.edu.

University of Wyoming at Casper

University of Wyoming at Casper

Brent L. Pickett, Ph.D., Dean
125 College Drive, Casper WY 82601
(307) 268-2713
Web site: https://www.uwyo.edu/uwcasper/

Since 1976, the University of Wyoming at Casper (UWC), in partnership with Casper College, has offered on-site courses and a slate of university degree programs in Casper. UW-Casper is also the location in Natrona County for statewide degree programs and classes offered through Distance Credit Programs.

UW-Casper was established to meet the needs of students unable to move to Laramie. Some of these students are nontraditional students who may be older or have families, homes, or jobs in the Casper area. UW-Casper is designed to meet the academic needs of students in a setting that provides small class sizes, dedicated staff, and award-winning faculty. Courses are taught by resident and visiting faculty who are regular or part-time members of UW academic departments. A full-service student success office handles admission, registration, financial aid, and advising.

Classes are taught onsite on the Casper College campus. More than 4,000 students have received their UW degrees through UW at Casper support and programs.

UW-Casper also has the Bachelor's of Applied Science (BAS) program. This fully online program is designed to stack onto an associate's degree to help persons already in the job market further develop their skills and advance their career potential. There are two areas of concentration available in the BAS, one in Health Services Administration and the other in Organizational Leadership.

Undergraduate Majors

Organizational Leadership, B.A.S.
Biology, B.S.

Criminal Justice, B.A.

Secondary Career & Technical Education, B.A.S.
Communication, B.A.
Elementary Education, B.A.

Elementary Education/Special Education, B.A.
Medical Laboratory Science, B.S.
Psychology, B.S.
Secondary Science - Biological Science Education with Concurrent Major in Biology (BSSE), B.A.
Social Work, B.S.W.

Sociology, B.A.

Zoology, B.S.

Zoology, B.S. UW - Casper

Graduate Majors

Counseling, M.S., Concentration in Mental Health Counseling or Counseling, M.S., Concentration in School Counseling

Social Work, M.S.W.

Minors and Endoresements

Secondary Biology Endorsement

Biology, Minor

Secondary Chemistry Endorsement

Chemistry Minor

Communication Minor

Criminal Justice Minor

Early Childhood Endorsement

Early Childhood Education Options

'Gender and Women's Studies Minor

Honors College Minor Curriculum

Psychology Minor

Sociology Minor

Zoology Minor

For more information, contact UW at Casper at 125 College Drive, Casper, WY 82601; (307) 268-2713, (877) 264-9930; or by e-mail at uwcasper@uwyo.edu.

Wyoming Institute for Humanities Research

The Wyoming Institute for Humanities Research strives to be an engine for producing interdisciplinary research in the humanities; a community for faculty, students, and the public; and a model of democratic education fit for our land-grant university.

Scott Henkel | PI, Director of the Wyoming Institute for Humanities Research and Associate Professor of English and African American Diaspora Studies

Founded in 2013, the humanities institute promotes, supports, and showcases humanities scholarship across the university, the state, and the world. In addition to sponsoring invited speakers, events, discussion groups, the institute supports the individual and collaborative research projects of University of Wyoming faculty, students, and staff. The centerpiece of our research support for UW faculty is the Humanities Research Group fellowship program.

The humanities are the laboratory of democracy, where people learn about ethics, empathy, perspective, context, and critical, creative, and analytical thinking, as well as understanding how the history of race, class, and gender have shaped our systems and institutions. We stand for the values of free speech and academic freedom both at the University of Wyoming and for the people in the state whom we serve. Our research, teaching, and public engagement--in diverse disciplines such as anthropology, art history, cultural studies, environmental studies, geography, history, languages, law, literature, philosophy, political science, rhetoric, and more--speak to the diversity and equality that all human beings possess.

For those reasons, the humanities institute is the home of the Democracy Laboratory, which seeks to empower students, faculty, and the public using interdisciplinary humanities methods in order to connect our communities and to strengthen the quality of our democracy. The Democracy Lab is a dynamic, interdisciplinary, intergenerational space devoted to one of the most grandest challenges we face: how to make liberty and justice for all a fact of life rather than a distant dream.

The humanities have always been a central part of the Land Grant University mission, and continue to be a vital part of that mission in the 21st century. As the only Land Grant University in the state, the University of Wyoming's mission is to "honor our heritage as the state's flagship and Land Grant University by providing accessible and affordable higher education of the highest quality; rigorous scholarship; the communication and application of knowledge; economic and community development; and responsible stewardship of our cultural, historical and natural resources."

Humanities Community: WIHR is a member of the Consortium of Humanities Centers and Institutes (https://chcinetwork.org/). The Consortium currently has a membership of 154 organizations in the US, Europe, Asia, and Pacific Rim.

We participate in the National Humanities Alliance (www.nhalliance.org), an advocacy coalition dedicated to the advancement of humanities education, research, preservation, and public programs.

Division of Student Affairs

- Campus Recreation
- Dean of Students Office
- Student Health Service
- University Counseling Center
- Residence Life & Dining Services
- Center for Student Involvement and Leadership (CSIL)

Kimberly Chestnut, Vice President

Ryan O'Neil, Dean of Students & Associate Vice President

Nycole Courtney, Dean of Student Success & Associate Vice President

Vice President For Student Affairs Office:

408 Old Main, (307) 766-5123, Fax: (307) 766-2696

The Division of Student Affairs is the administrative unit of the university that is responsible for providing leadership and coordination of programs and services designed to support student learning and development in and outside the classroom.

In partnership with UW faculty, staff, and students, the Division of Student Affairs develops and delivers services, programs, and facilities that promote the intellectual, personal, cultural, and civic development of students; coordinates efforts to create a caring community in which individuals are respected, encouraged to pursue excellence, and achieve their potential; and fosters honoring the diversity of individuals and cultures.

The Division of Student Affairs is comprised of the Associated Students of the University of Wyoming, Campus Recreation, the Dean of Students Office, the Center for Student Involvement and Leadership, Student Health Service, Student Success and Graduation Hub, the University Counseling Center, Residence Life, and the UW Alumni Association. The different areas within the Division work together to provide safe and comfortable housing; to provide wellness services for the health of students; to educate students and encourage personal accountability; to engage students in leadership opportunities; to provide educational and entertaining programs and events; and to foster opportunities for student feedback which is essential for a successful institution.

Campus Recreation

Pat Moran, Director

Half Acre Recreation and Wellness Center

Phone: (307) 766-5586
Web site: www.uwyo.edu/Rec

Our mission is to provide recreational and wellness opportunities to a diverse campus community that enhance the learning and workplace environment and promote mental and physical health via quality facilities, equipment, and

programs. Our programs, which include the Wellness Center, Open Recreation, Intramural Sports, Club Sports, and the Outdoor Program, offer a broad range of coordinated activities for individuals and groups that promote health awareness, a sense of community and a lifelong appreciation for wellness and recreational activities. Supporting the value of student development, our programs strive to offer opportunities to students that develop leadership skills and promote responsibility while maintaining a balance between personal, professional, and academic pursuits.

Wellness Center

Half Acre Recreation and Wellness Center, First Floor
Phone: (307) 766-9355

An exciting new addition to the Campus Recreation Department, the UW Wellness Center is a network of people, programs, services, and policies that work together to create and support a culture of health and wellness at UW. The UW Wellness Center works collaboratively with various campus departments to provide education, services, and programs that address health needs such as stress relief, nutrition, fitness, mental health, sexual health, safety, and alcohol and tobacco use. Some of the Wellness Center offerings include: athletic training, massage therapy, personal training, sleep assessments, blood pressure checks, and weekly educational workshops. The Wellness Center is located in the southwest portion of Half Acre, in the "free zone," which does not require gym membership to access. The Wellness Center is open to students as well as members of the University community. Most offerings are free, however there are a few services that charge a competitive rate. Visit the Wellness Center to learn more about these programs and services aimed at improving your overall wellness.

Open Recreation

Half Acre Recreation and Wellness Center, First Floor
Phone: (307) 766-5586

The Open Recreation Program is housed primarily in the newly renovated Half Acre Recreation and Wellness Center with additional recreational opportunities in the Corbett building on the east campus. UW's Open Recreation Program, available to the entire student population, faculty, staff and spouses, provides quality equipment for individuals to participate in non- organized, informal activities such as basketball, volleyball, racquetball, or badminton. Patrons can also take advantage of swimming, weight training, aerobic training, personal training services, and group fitness and instructional classes. For more information on the Open Recreation Program, stop by the front desk in the lobby of Half Acre, pick up a Campus Recreation brochure, or visit the Campus Recreation website.

Intramural Sports

Half Acre Recreation and Wellness Center, Second Floor
Phone: (307) 766-4175

UW's Intramural Sports Program offers organized individual and team competitive sport events in men's, women's, and co- recreational leagues. Students and employees can participate in organized recreation level sport competition in approximately 30 activities per semester such as flag football, soccer, inner-tube water polo, wrestling, badminton, basketball, volleyball, or table tennis. Information is available from the Rec Sports Office or on the Campus Recreation website. Every member of the university community is encouraged to become familiar with the many aspects of intramural sports, which are designed to encourage participation and socialization regardless of previous experiences, sport skills, or group affiliation. Come alone or with a group to sign up for a fun time.

Club Sports

Half Acre Recreation and Wellness Center, Second Floor
Phone: (307) 766-4175

UW's Outdoor Program (OP) offers a variety of outdoor experiences as well as training to use the indoor climbing and bouldering wall. Participants have opportunities to develop lifetime recreational skills, gain an appreciation and concern for our natural environment, and meet new people. The OP sponsors a variety of seasonal programs and outings throughout the year. These activities range from day and weekend trips to nearby destinations to extended trips at unique destinations. The OP also runs clinics and sponsors guest speakers, presentations, and other educational programs. Activities are offered for all skill levels through such venues as back country ski outings, trail running, snowshoe outings, back country hiking and camping trips, or rock climbing. The OP provides an extensive line of rental equipment to the campus community. The Outdoor Program staff is ready to expose the university community to a whole new realm of experiences not available anywhere else on campus. Visit the office or our website for more information on OP activities and services.

Outdoor Program

Half Acre Recreation and Wellness Center, First Floor
Phone: (307) 766-2402

UW's Outdoor Program (OP) offers a variety of outdoor experiences as well as training to use the brand new indoor climbing and bouldering wall. Participants have opportunities to develop lifetime recreational skills, gain an appreciation and concern for our natural environment, and meet new people. The OP sponsors a variety of seasonal programs and outings throughout the year. These activities range from day and weekend trips to nearby destinations to extended trips at unique destinations. The OP also runs clinics and sponsors guest speakers, presentations, and other educational programs. Activities are offered for all skill levels through such venues as back country ski outings, trail running, snowshoe outings, back country hiking and camping trips, or rock climbing. The OP provides an extensive line of rental equipment to the campus community. The Outdoor Program staff is ready to expose the university community to a whole new realm of experiences not available anywhere else on campus. Visit the office or our website for more information on OP activities and services.

Dean of Students Office

Ryan O'Neil, Dean of Students
128 Knight Hall, (307) 766-3296
Web site: www.uwyo.edu/DOS

The Dean of Students Office (DOS) provides a variety of UW student support services. The staff in DOS work to enhance the quality of life for all UW students. Assistance with situational needs and student life concerns of individual students and groups of students regarding their personal, academic, and/or social welfare are coordinated by the DOS staff.

Several offices and programs comprise the Dean of Students Office. These include the Dean of Students, STOP Violence Program, welfare check, and Student Judicial Affairs, all located in Knight Hall. The Center for Student Involvement and Leadership (CSIL) is also under the Dean of Students and is primarily located in the Wyoming Union.

Services available through the Dean of Students Office include individual advisement and consultation regarding situational student life concerns; referral coordination with other university and community services; conflict resolution and consultation regarding student conduct, rights, and responsibilities; advisement in grievance procedures, due

process, and student appeals of disputed decisions; official university withdrawals; and authorized absences and emergency contacts.

The professional staff provide direct assistance to students and groups at any time in the student's career at the university. Information, individual advisement and consultation, and assistance with administrative procedures are facilitated in the Knight Hall offices.

STOP Violence Program: The mission of the STOP Violence Program is to prevent domestic/relationship violence, sexual assault, and stalking on the campus of the University of Wyoming. Awareness and prevention efforts are provided by this office through outreach and educational activities. The coordinator works closely with the University Counseling Center (UCC), Campus Police (UWPD), Residence Life, and other offices to provide programs.

Another focus of the STOP Violence Program is to provide support and resources to students affected by violence. One resource is an on-campus advocate who can help a student access services through university departments and/or community agencies. Support is also offered by providing information to these students, their friends, and families, about the effects of domestic/relationship violence, stalking, or sexual assault. Walk-in hours are 10 a.m. to 4 p.m. weekdays, (307) 766-3296. For after-hours emergencies, please call (307) 745-3556 (the Albany County Safe Project).

Student Conduct, Rights and Responsibilities: The Trustees, as a governing body of the university, are charged with the statutory duty and authority to make all rules and regulations including the administrative responsibility to regulate and control whatever conduct and behavior of the members of the university community impedes, obstructs, or threatens the achievement of the educational goals and mission of the university. The university community, in order to function in an orderly and creative manner, ascribes to a code of conduct to which the student must adhere. This information, entitled Student Code of Conduct, is distributed to each student who is granted admission to the university. This information and other university regulations are published to inform students of their rights and responsibilities and the minimum ethical standard of conduct expected of them as members of the university community. Additional copies of this information may be obtained at the Dean of Students Office or on the web.

Student Legal Services: Student Legal Services provides free, confidential legal assistance to the University of Wyoming student community through a full-time attorney. This office provides full legal service for any student need with the exception of in-court representation. The attorney can assist all fee-paying University of Wyoming students who seek advice in connection with personal legal issues. Information is readily available on a variety of subjects. This service is provided through student fees to ASUW, and there is no additional charge for the attorney's time. Student Legal Services also facilitates the effective and prompt handling of legal referrals, (307) 766-6347.

Disability Support Services

Kate McLaughlin, Director

109 Knight Hall

Phone: 307-766-3073

Fax: 307-766-3298

Website: uwyo.edu/udss

Disability Support Services (DSS) provides a variety of services for students with physical, sensory, cognitive, or psychological disabilities including printed materials in alternative format, note-taking assistance, classroom relocation, testing accommodations, access to adaptive computers, parking assistance, advocacy, sign language interpreters, real-time transcribing, mobility orientation for the blind, as well as other academic support services. UDSS assists UW to meet its legal and ethical obligations under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Services are coordinated with the efforts of the Division of Vocational Rehabilitation and Wyoming Services for the Visually Impaired, when appropriate. Students with disabilities who anticipate needing accommodations to fully participate in classes and programs at the University of Wyoming are strongly encouraged to register with UDSS and provide documentation of their disability.

Student Health Service

Student Health Building, (307) 766-2130
Web site: www.uwyo.edu/ShSer

The Student Health Service (SHS) provides personalized health care to eligible students by maintaining a high-quality medical outpatient clinic. The clinic provides primary health care, health education, and preventive services to enable students to complete their course of study. The professional staff consists of two physicians, three nurse practitioners, a psychiatric nurse practitioner, one physician assistant, and registered nurses, in addition to other professional and administrative personnel.

Undergraduate and professional full-time students taking 12 or more credit hours and graduate students taking 9 or more hours are eligible for services at the SHS. Undergraduate and graduate part-time students who have purchased the Optional Student Fee Package are also eligible. Enrollment in, or waiver from, the University of Wyoming Student Medical Insurance program has no effect on eligibility to use the Student Health Service. Students enrolled during the summer pay a summer fee for use of the SHS. Students not enrolled for summer but who were enrolled spring semester and are pre-registered for fall semester may pay the same summer fee to use the SHS. Payment of the semester fee provides visits with clinicians and nurses at no cost. Affordable laboratory diagnostic procedures, medications, and office procedures are available. There are also nominal charges for supplies such as ace bandages, splints, crutches, and other medical devices.

The hours of the Student Health Service can be found on our web site. All students are urged to have adequate health insurance coverage for illnesses or emergency visits to the local hospital, urgent care clinic, or a physician's office when the Student Health Service is closed. Insurance coverage is also recommended for medical care that is not available at the Student Health Service, including treatment of major injuries, surgery, and hospitalization. The student is responsible for all charges for services provided by persons or institutions outside of the Student Health Service.

Student Success and Graduation Hub

Nycole Courtney, Dean of Student Success

Phone: (307) 766-4858
Web site: www.uwyo.edu/student-success/

Our mission is to provide a robust support system in which students and families can become actively engaged to find solutions to navigate academic and personal struggles from adjusting to college. This self-guided hub helps you quickly find resources and guidance.

The hub exists to maximize student support and programming, personalized to their needs. All UW students have access to a support system that includes academic advising, therapeutic counseling, engagement, leadership development, mentoring, tutoring, developmental workshops and most of all - a sense of belonging.

We offer a one-stop-shop for meeting your needs and ensuring a successful college career. That's why we've grouped all of UW's student support opportunities together so you can easily identify where you need the most assistance at any given time during your college career.

University Counseling Center

Julio Brionez, Ph.D.
341 Knight Hall, (307) 766-2187
Web site: www.uwyo.edu/UCC

The University Counseling Center (UCC) provides comprehensive, time-effective mental health services to the university students and consultation on issues with parents, staff, and faculty. The UCC is a resource center for students to enhance personal success skills in dealing with the challenging and sometimes stressful university environment. The professional UCC staff work together with students to help them find effective ways to approach concerns and problems. Students are supported in learning to make healthy lifestyle choices that promote their personal, social, and academic goals. Group and individual counseling services, in a professional and confidential atmosphere, are provided to students with personal and interpersonal concerns. Other services include crisis intervention, walk-in consultation, and education to the UW community. Individual counseling appointments are made in person during regular office hours, 8 a.m. - 5 p.m. (summer hours: 7:30 a.m. - 4:30 p.m.) Monday through Friday. The UCC offers walk-in services, various hours a day, when students may simply walk in to be seen for a brief appointment, to determine future services they might need. Counseling services are free to UW students. For after-hour emergencies, students can talk to an on-call counselor by calling 766-8989.

Campus Consultation and Outreach: UCC staff consults with academic and student services personnel, student leaders, and university administration regarding counseling and mental health issues and ways to better the UW living/learning environment. Outreach programs can be initiated by student or staff request or by UCC staff bringing issues of concern to various campus populations. Some current issues include destigmatizing mental health, suicide prevention, respect for diversity, sexual orientation issues, and stress management. Generally, UCC asks for a minimum of two weeks notice for an outreach presentation; however, in urgent situations triggered by trauma, outreach programs will be offered on a shorter notice. The Center hosts the Lifesavers Coalition - a group of campus and community partners who have an interest in training others in the skills of suicide prevention, and also have a focus on how to be proactive with wellness.

UCC collaborates closely with the STOP Violence Program in the Dean of Students Office by providing counseling support to students who are victims of sexual violence as well as collaborative programming regarding prevention of sexual violence and membership with Campus Coalition for the Prevention of Sexual and Relationship Violence.

AWARE (Alcohol Wellness Alternatives, Research and Education): The AWARE Program is committed to a healthy campus community and a drug-free learning environment. AWARE Program staff utilize best practices in providing drug and alcohol education and prevention programming for the University of Wyoming campus and community. The AWARE Program promotes a standard of wellness in regard to healthy choices surrounding alcohol use and the prevention of illicit drug use by college students. To achieve these goals, the AWARE Program offers a broad range of services ranging from individual interventions to consultative and educational services for campus groups and the community at large. AWARE also coordinates the Cowboy UP Peer Education group. Additionally, the AWARE Program coordinates the A-Team, a campus-community coalition dedicated to reducing underage and excessive alcohol use. For more information, please visit the web site at www.uwyo.edu/aware or feel free to contact via telephone at (307) 766-2187, email (aware@uwyo.edu), or in person by visiting 341 Knight Hall.

Residence Life Services

Ryan Schamp, Assoc Dean of Students, Director Residence Life
Washakie Center, Lower Level, (307) 766-3175
Web site: www.uwyo.edu/living

Residence Life & Education is committed to providing social and collaborative opportunities that occur while living - on campus, with the belief that these elements are an essential component of a student's education, personal growth, and college experience. The social and collaborative opportunities that occur while living on-campus are unparalleled elsewhere. You will meet new people, develop relationships, and integrate living and learning. We are committed to providing an environment that supports your personal and academic success and looks forward to having you become a part of our campus community!

The university operates six furnished residence halls, and a variety of furnished and unfurnished apartments.

Residence Halls: The residence halls provide convenient living, studying, educational programming, social activities and dining accommodations for the university community. Various living environments are available. Full-time, live-in professional staff and graduate assistants live in the community, along with student resident assistants. The staff is available to all students to help make residence hall living an enjoyable and productive part of campus life. We have six residence halls for students:

Downey Hall

Honors House

McIntyre Hall

Orr Hall

Tobin House

White Hall

The residence halls also provide several additional services to our students:

Laundry facilities on-site in each hall

On-site computer labs and study rooms

Mail service

Free tutoring in the Student Learning Center

24-hour emergency custodial & maintenance services

Room assignments are made according to the date the completed contract form is received. The housing deposit is included in the enrollment confirmation deposit paid by new UW students. Students returning to UW who wish to live in the residence halls must pay the housing deposit when they complete their housing contract. Hall, roommate, and other preferences may be indicated on the contract and will be considered.

New Student Live-in Policy: The UW Trustees have established a policy requiring all new students to live in the UW residence halls during their first academic year on campus and to take a minimum of the 12-accesses-per-week dining plan. The policy is based on extensive student development research indicating that a student's chance of academic success and satisfaction with the college experience greatly improves through the residential living experience. For a student to be considered for an exemption to the policy, a request with appropriate documentation must be submitted.

Housing accommodations at the University Apartments may be available for students who have children or minors living with them or students of sophomore status or above.

For additional information about the residence halls, dining plans, or university apartments visit www.uwyo.edu/living; call toll free (866) 653-0212; or if in Laramie, (307) 766-3175 (residence halls) or 766-3176 (university apartments); FAX (307) 766-3613 or email living@uwyo.edu. Information may also be obtained by writing to Residence Life & Dining Services, Dept. 3394, 1000 E. University Ave., Laramie, WY 82071.

Center for Student Involvement and Leadership (CSIL)

Erik Kahl, Director
326 Wyoming Union, (307) 766-4008
Web site: www.uwyo.edu/CSIL

The Center for Student Involvement and Leadership (CSIL), located in the Wyoming Union, seeks to provide opportunities for on campus engagement through inclusive student-centered programs, communities, services, and experiential learning opportunities to complement the academic experience. Through CSIL, students can join or create a Registered Student Organization; volunteer for local, national, or international service projects; obtain on-campus employment; serve as a student government leader; participate in fun activities; and find community among those who are similar and different.

Associated Students of the University of Wyoming (ASUW)

020 Wyoming Union, (307) 766-5204
Web site: www.uwyo.edu/ASUW

The Associated Students of the University of Wyoming (ASUW) is comprised of three branches: the Executive, Legislative, and Judicial. All full-time, fee-paying students are members of ASUW. Officers and 32 senators are elected annually by the students, and each senator represents one of the colleges or schools. They meet weekly to consider areas of concern to students. The ASUW student government represents student opinion to the administration, faculty, staff, and State of Wyoming legislature. ASUW participation across the university ensures that university policies are made with the concerns of students in mind. In addition, the ASUW president serves as an ex-officio (non-voting) member of the University of Wyoming Board of Trustees and conveys student opinion to the institution's highest governing body. ASUW also provides their own programs and services for students. Included in these programs are ASTEC (technical services), located in the Wyoming Union; Student Legal Services in Knight Hall; and several councils: First-Year Senate, Non-Traditional Student Council, and the United Multicultural Council.

Campus Activities Center

Sarah Luke, Associate Director
Center for Student Involvement and Leadership

The Campus Activities Center (CAC) serves as the hub of student activities on campus. Professional staff in the office offer guidance and assistance for programming committees, late-night programming efforts, more than 250 recognized student organizations (RSOs), and student leadership development. Recognized student organizations at UW are established to promote a learning and social experience for individuals who share common interests. Students are encouraged to join and are free to organize associations that will provide opportunities to participate in educational, academic, cultural, and social activities. CAC staff are available to help students develop organizations, sponsor activities, and coordinate efforts with other entities on campus. A complete listing and descriptive classification of all current recognized student organizations is available from the CAC and online at www.uwyo.edu/rso. The CAC is also home to 7220 Entertainment, a student-run organization that plans and implements social, recreational, cultural, and educational programs for the campus community. 7220 Entertainment is composed of five committees.

Fraternity and Sorority Life

Center for Student Involvement and Leadership

The fraternities and sororities at UW provide a living/learning environment designed to support the development and experience of their members. Through intentional programs, members build connections among fellow brothers/sisters and alumni, grow and develop as students and leaders, give back through services, and lead with integrity. Countless leadership opportunities can be found within each chapter, governing council, and broader FSL community.

Multicultural Affairs

Center for Student Involvement & Leadership (CSIL)
103 Wyoming Union, uwma@uwyo.edu

Multicultural Affairs serves to enhance the personal and academic growth of students through programs, services, policies, and procedures. Our focus is to advocate with and for marginalized students to develop a positive sense of self, create strong community connections, and thrive in all aspects of student life.

A variety of events, workshops, support groups, and trainings are offered throughout the academic year to support students. Multicultural Affairs also offers the Multicultural Resource Center and Rainbow Resource Center in the Wyoming Union.

The Multicultural Resource Center, located in room 103, is a place for students from marginalized and underrepresented backgrounds to find community and support. Programs and additional resources are offered throughout the year, as well as computers, printers and workstations. The Rainbow Resource Room, located in room 106, is a supportive space for our LGBTQIA students to find community and a network of support. Computers, printers, and workstations are also available in this center as well as programmatic offerings throughout the year. More information can be found at: http://www.uwyo.edu/oma/.

Student Media

Center for Student Involvement & Leadership (CSIL)
001 Wyoming Union, (307)766-6190

The Student Media Office is partially funded by student fees. It meets the informative, educational, and cultural needs of the university community through such publications as The Branding Iron (the daily student newspaper published Tuesday-Friday and weekly during the summer session), the literary magazine Owen Wister Review (published spring semester), and the feature magazine Frontiers (published fall and spring semesters) which are published under the auspices of the Board for Student Media.

The board is composed of students, faculty, staff, and selected members of the Wyoming Press Association. These publications provide an excellent opportunity for students to gain valuable experience in newspaper, magazine, advertising, sales, and production. More information can be found at: http://www.uwyo.edu/studentmedia/index.html.

Union Events

Center for Student Involvement & Leadership (CSIL)
210 Wyoming Union, (307)766-3161

The Wyoming Union is the community center for campus life, enhancing and complementing out-of-class educational experiences. Open daily, the Union provides facilities, services, and various activities to all of the campus community. Through the Union Events office, reservations can be made for spaces in the building including meeting rooms, ballrooms, or tables in the breezeway. The Information Desk offers campus and community information and ticket sales. For reservations and information on these services, contact the Union Events Office or make a reservation online: https://www.uwyo.edu/union/reservations/.

Veterans Services Center

Marty Martinez
Center for Student Involvement & Leadership (CSIL)
300 Wyoming Union, (307)766-6908

Located on the 3rd floor of the Wyoming Union, the Veterans Services Center has resources, computers, and a lounge area where veterans and their dependents, spouses, and friends can meet and support each other. Special events, programs, and student groups are coordinated out of the center. The staff works to improve access to and success in college for students who are veterans. For more information, call (307) 766-6908 or visit the web site at http://www.uwyo.edu/vetservices/.

Service, Leadership, and Community Engagement Office (SLCE)

Center for Student Involvement & Leadership (CSIL)
033 Wyoming Union, (307)766-3117

The Service, Leadership, and Community Engagement Office (SLCE) is located on the lower level of the Wyoming Union. SLCE is predicated on the notion that universities have a responsibility to prepare all students for active citizenship. A healthy American democracy demands ethical, engaged leadership, and SLCE seeks to cultivate these ideals among our UW students. A complete listing of all the programs and events the SLCE Office offers can be found at www.uwyo.edu/ slce/. Students are invited and encouraged to visit the office in Room 033 in the Wyoming Union to explore the many opportunities available, including:

- First Year Institute
- Alternative Breaks
- Local and national days of service
- Good Mule Project
- The Big Event
- Leadership development programs
- Community engagement programs

Credit Available to Undergraduate Students

- I. University of Wyoming Credit
- II. Transfer Credit
- III.Military Service Courses

The University of Wyoming offers credit towards an undergraduate degree through:

I. University of Wyoming Credit

Instructed Classes

Courses are offered on campus and at distance settings around the state, including recognized academic courses under faculty general supervision such as internships, clerkships, clinical experience, co-op programs, etc.

Distance courses

Unlike some institutions, UW delivers courses at a distance through its mainstream academic departments, not through a separate academic unit. Academic department heads have the authority to assign instructors to distance-delivered courses, including online courses. They also have a responsibility to ensure that those courses are comparable in rigor and effectiveness to courses delivered face to face.

For this reason, when a department offers a UW course both face to face and at a distance, any UW student may satisfy any relevant university-, college-, and department-level requirements or elective credit by taking the course in either format.

Exceptions may arise when it is necessary to reserve space in a distance-delivered course for off-campus students, who can't take the face-to-face version. In these cases, departments may reserve spaces for off-campus students. But to the extent that spaces remain available after all interested off-campus students have enrolled, these spaces must be available to interested on-campus students.

Credit by Examination

An examination of an appropriate type and content for the credit sought may be conducted to determine if the applicant's proficiency is equivalent to that which could be expected upon completion of a college-level course in the subject. An applicant found to have this level of proficiency will be awarded credit for that course and allowed to proceed either with more advanced courses or with courses in other areas.

The use of credit by examination, or credit for prior learning, in graduate programs is not allowed.

Information concerning credit by examination can be obtained by contacting the Office of the Registrar.

Departmental Exams

While there is no maximum placed on the amount of credit earned by examination, credit so earned does not count in fulfilling the residency requirement of 30 hours of upper division University of Wyoming credit.

A student may not be allowed credit by examination in a course in which the student is currently or was previously enrolled either for credit or as a visitor or auditor, except that credit by examination may be used as a means to obtain credit for courses previously taken at institutions from which credit is nontransferable. A student may not challenge equivalent courses.

A student may not earn credit by examination in a course if the student has completed a course in the subject matter area above the level of the course for which the examination is sought. However, at the discretion of the departments involved, during the add/drop period a student may challenge a lower-level course while enrolled in a higher-level course in the same subject matter area, if the course challenged is a prerequisite for the course in which the student is currently enrolled.

If an examination exists, eligible students who pay the testing fee of $80.00 may not be denied an examination in the introductory undergraduate course in any department. "Introductory course" is interpreted as that course which is prerequisite for successive courses in the department. Additional fees for examinations offered by testing agencies other than the University of Wyoming are determined by the agency concerned.

Grades of S or U (satisfactory/unsatisfactory) are given in all examinations. Credit by examination is not included in the student's grade point average; it is, however, included in the hours earned toward graduation. The grade of S is the equivalent of a C or better. See below for specific subject requirements. Entry on the student's academic record for credit by examination is made only if a grade of S is obtained and is noted as a grade obtained by examination.

To qualify for undergraduate credit, the student must be currently registered at the University of Wyoming as a degree candidate. The student must also be able to demonstrate to the satisfaction of the chair of the department involved that background experience has prepared him or her to attempt a challenge examination if such an examination is sought. The department chair's decision will be based upon existing departmental constraints such as accreditation, graduation requirements, and program requirements.

Other Options Include:

- Subject CLEP tests
- AP tests
- International Baccalaureate (IB)
- DSST

Students showing proficiency by passing examinations such as the College Board Advanced Placement Program (AP), for example, or examinations developed by University of Wyoming departments may earn college credit through the level of demonstrated proficiency. Credit may be allowed on the basis of any testing procedure acceptable to any department, which may include tests of the AP program and both the general and subject (specific) examinations of the College Level Examinations Program (CLEP).

Advanced Placement (AP) Information

Subject	**Acceptable Score**	**UW Course Number(s)/Title(s), Semester Credit Hours**
Art History	4+	ELEC 1000 (3)
Art & Design 2D	4+	ELEC 1000 (3)
Art & Design 3D	4+	ELEC 1000 (3)
Art & Design Drawing	4+	ELEC 1000 (3)
Biology	4+	LIFE 1010 (4), General Biology
Calculus AB	3+	MATH 2200 (4), Calculus I
Calculus BC	3+	MATH 2200, 2205 (8), Calculus I and II
Chemistry	4+	CHEM 1020 and CHEM 1030 (8), General Chemistry I and General Chemistry II
Chinese Language	4	CHIN 1010 (4), 1st yr. Chinese I
Chinese Language	5	CHIN 1010, 1020 (8), 1st yr. Chinese I and II
Computer Science A	4	COSC 1010 (4), Intro to Computer Science I

Computer Science A	5	COSC 1010, 1030 (8), Intro to Computer Science I, Computer Science I
Computer Science Principles	3+	COSC 1100 (3), Computer Science Principles and Practice
Environmental Science	3+	ENR 1200 (4), Environment
European History	3+	HIST 1120 (3), Western Civ. II
French Language	3	FREN 1010 (4), 1st yr. French I
French Language	4	FREN 1010, 1020 (8), 1st yr. French I and II
French Language	5	FREN 1010, 1020, 2030 (12), 1st yr. French I, II, 2nd yr. French I
German Language	3	GERM 1010 (4), 1st yr German I
German Language	4	GERM 1010, 1020 (8), 1st yr. German I and II
German Language	5	GERM 1010, 1020, 2030 (12), 1st yr German I, II, 2nd yr. German I
Government and Politics	4+	POLS 0000 (3) (fulfills the US Constitution requirement; eligible to take the one-hour Wyoming Constitution exam)
Government Comp.	3+	POLS 0000 (3) (fulfills the US Constitution requirement; eligible to take the one-hour Wyoming Constitution exam)
Human Geography	4+	GEOG 1020 (3), Intro to Human Geography
Italian Language	4+	LANG 1010, 1020 (8)
Japanese Language	4	JAPN 1010, 1020 (8) 1st Year Japanese I and II
Japanese Language	5	JAPN 1010, 1020, 2030 (12) 1st year Japanese I and II, 2nd Year Japanese I
Language & Composition	4+	ENGL 1010 (3), College Composition and Rhetoric
Latin Literature	3	LATN 1010 (4), 1st yr. Latin I
Latin Literature	4	LATN 1010, 1020 (8), 1st yr. Latin I, II
Latin Literature	5	LATN 1010, 1020, 2030 (12), 1st yr. Latin I, II, 2nd yr. Latin I
Literature & Composition	4+	ENGL 1010 (3), College Composition and Rhetoric
Macroeconomics	4+	ECON 1010 (3), Principles of Macroeconomics
Microeconomics	4+	ECON 1020 (3), Principles of Microeconomics
Music Theory	4+	MUSC 1030 (3), Music Theory I and MUSC 1035 (1), Aural Theory I

Physics 1	4+	PHYS 1110 (4), General Physics I
Physics 2	4+	PHYS 1120 (4), General Physics II
Physics B	4+	PHYS 1210 (4), College Physics I
Physics Mechanics	4+	PHYS 1210, 1220 (8), College Physics I and II
Physics Elec & Magnetism	4+	PHYS 1220 (4), Engineering Physics II
Psychology	4+	PSYC 1000 (3), General Psychology
Research	4+	ELEC 1000 (3)
Seminar	4+	ELEC 1000 (3)
Spanish Language	2	No credit, but student should contact department for possible placement in SPAN 1020
Spanish Language	3	SPAN 1010 (4), 1st yr. Spanish I
Spanish Language	4	SPAN 1010, 1020 (8), 1st yr. Spanish I, II
Spanish Language	5	SPAN 1010, 1020, 2030 (12), 1st yr. Spanish I, II, 2nd yr. Spanish I
Spanish Literature and Culture	2	No credit but student should contact department for placement
Spanish Literature and Culture	3	SPAN 1010, 1020, 2030 (12), 1st yr. Spanish I, II, 2nd yr. Spanish I
Spanish Literature and Culture	4+	SPAN 1010, 1020, 2030, and 2040 (15); 1st yr. Spanish I, II, 2nd yr. Spanish I, and 2nd yr. Spanish II
Statistics	3+	STAT 2050 (4), Fund of Statistics
U.S. History	4+	ELEC 1000 (6) (fulfills the US Constitution requirement; eligible to take the one-hour Wyoming Constitution exam)
World History	4	HIST 1330 (3), World History from 1450
World History	5	HIST 1330, 1320 (6), World History to 1450 and from 1450

**Partial V: Students receiving partial V credit may satisfy the Wyoming government portion of the requirement by taking an exam on Wyoming State politics.*

College Level Examination Prep (CLEP)

Subject	**Acceptable Score**	**UW Course Number(s)/Title(s), Semester Credit Hours**

American Government	50 or above	POLS 0000 (3), (fulfills US Constitution requirement, eligible to take the one-hour Wyoming Constitution exam)
American Literature	All Scores	No Credit
Analyzing and Interpreting Literature	50 or above	ELEC 1000 (3)
Biology	50 or above	LIFE 1010 (4), General Biology
Introductory Business Law	50 or above	MGT 2010 (3) Legal Environment of Business
Calculus	50 or above	MATH 2200 (4), Calculus I
Chemistry	50 or above	CHEM 1020 and CHEM 1030 (8), General Chemistry I and General Chemistry II
College Algebra	50 or above	MATH 1400 (3), College Algebra
College Composition	All Scores	No Credit
College Mathematics	50 or above	Math 1000, ELEC 1000 (6) Problem Solving and General Elective
English Literature	All Scores	No Credit
Financial Accounting	50 or above	ACCT 1010 (3) Principles of Accounting I
French Language	41 to 49	FREN 1010 (4), 1st yr. French I
French Language	50 to 56	FREN 1010, 1020 (8), 1st yr. French I and II
French Language	57 or above	FREN 1010, 1020, 2030 (12), 1st yr. French I, II, 2nd yr. French I
French Language: Level 1	50 or above	FREN 1010 (4) 1st yr. French I
French Language: Level 2	50 or above	FREN 1010, 1020 (8), 1st yr. French I and II
German Language	41 to 47	GERM 1010 (4), 1st yr. German I
German Language	48 to 53	GERM 1010, 1020 (8), 1st yr. German I and II
German Language	54 or above	GERM 1010, 1020, 2030 (12), 1st yr. German I, II, 2nd yr. German I
German Language: Level 1	50 or above	GERM 1010 (4), 1st yr. German I
German Language: Level 2	50 or above	GERM 1010, 1020 (8), 1st yr. German I and II
History of the U.S. I	50 or above	ELEC 1000 (3) (fulfills US Constitution requirement, eligible to take the one-hour Wyoming Constitution exam)

History of the U.S. II	50 or above	HIST 1221 (3) (fulfills US Constitution requirement, eligible to take the one-hour Wyoming Constitution exam)
Humanities	50 or above	ENGL 2130 (3) Creative Impulse
Human Growth and Development	50 or abover	EDST 2450 (3) Foundations of Development and Learning
Information Systems and Computer Applications	50 or above	COSC 1200 (3) Computer Information Systems
Intro to Educational Psychology	47 or above	ELEC 1000 (3)
Natural Science	50 or above	LIFE 1002 Discovering Science
Pre-Calculus	50 or above	MATH 1450 (5), Algebra & Trigonometry
Principles of Management	50 or above	MGT 2100 (3), Management & Organization
Principles of Marketing	50 or above	MKT 2100 (3), Intro to Marketing
Principles of Macroeconomics	50 or above	ECON 1010 (3), Principles of Macroeconomics
Principles of Microeconomics	50 or above	ECON 1020 (3), Principles of Microeconomics
Introductory Psychology	50 or above	PSYC 1000 (3), General Psychology
Social Sciences and History	50 or above	ELEC 1000 (3)
Spanish Language	41 to 49	SPAN 1010 (4), 1st yr. Spanish I
Spanish Language	50 to 53	SPAN 1010, 1020 (8), 1st yr. Spanish I and II
Spanish Language	54 or above	SPAN 1010, 1020, 2030 (12), 1st yr. Spanish I, II, 2nd yr. Spanish I
Spanish Language: Level 1	50 or above	SPAN 1010 (4), 1st yr. Spanish I
Spanish Language: Level 2	50 or above	SPAN 1010, 1020 (8), 1st yr. Spanish I and II
Spanish Writing: Level 1	50 or above	SPAN 1010 (4), 1st yr. Spanish I

Spanish Writing: Level 2	50 or above	SPAN 1010, 1020, 2030 (12), 1st yr. Spanish I, II, 2nd yr. Spanish I
Introductory Sociology	56 or above	SOC 1000 (3), Sociological Principles
Western Civ. I	50 or above	HIST 1110 (3), Western Civilization I
Western Civ. II	50 or above	HIST 1120 (3), Western Civilization II

DANTES Standardized Subject Tests (DSST)

Subject	**Acceptable Score**	**UW Course Number(s)/Title(s), Semester Credit Hours**
General Anthropology	50 or above	ELEC 1000 (3)
Art of the Western World	50 or above	ELEC 1000 (3)
Astronomy	400 or above	ASTR 1000 (3)
Business Ethics & Society	400 or above	ELEC 1000 (3)
Business Math	400 or above	ELEC 1000 (3)
Civil War and Reconstruction	47 or above	ELEC 3000 (3)
College Algebra, Fundamentals of	400 or above	MATH 1400 (3) College Algebra
Computing and Information Technology	300 or above	COSC 1200 (3) Computer Information Systems
Criminal Justice	46 or above	ELEC 1000 (3)
Environmental Science	400 or above	ENR 1200 (4) Environment
Ethics in America	50 or above	ELEC 1000 (3)
Foundations in Education	400 or above	ELEC 1000 (3)
History of the Vietnam War	53 or above	HIST 1220 (3) US History II
History Soviet Union Rise and Fall	49 or above	ELEC 3000 (3)

Human/Cultural Geography	48 or above	GEOG 1020 (3) Introduction to Human Geography
Human Resource Management	46 or above	ELEC 1000 (3)
Introduction to Business	400 or above	ELEC 1000 (3)
Introduction to Computing	400 or above	ELEC 1000 (3)
Introduction to World Religions	50 or above	RELI 1000 (3), Introduction to Religion
Lifespan Developmen t Psychology	50 or above	ELEC 1000 (3)
Management Information Systems	400 or above	ELEC 1000 (3)
Math for Liberal Arts	400 or above	MATH 1000 (3) Problem Solving
Organizational Behavior	46 or above	ELEC 1000 (3)
Money and Banking	48 or above	ELEC 1000 (3)
Personal Finance	46 or above/400 or above	ELEC 1000 (3)
Physical Geology	46 or above	ELEC 1000 (3)
Principles of Finance	400 or above	ELEC 3000 (3)
Principles of Financial Accounting	50 or above	ACCT 1010 (3) no USP credit
Principles of Physical Science	47 or above	ELEC 1000 (3)
Principles of Public Speaking	47 or above	ELEC 1000 (3)
Principles of Supervision	400 or above	ELEC 1000 (3)
Rise and Fall of the Soviet Union	49 or above	ELEC 3000 (3)
Statistics	48 or above	STAT 2070 (4), Intro to Statistics for Social Sciences

Substance Abuse	49 or above/400 or above	ELEC 3000 (4)
World Religions, Intro to	50 or above	RELI 1000 (3) Intro to Religion

International Baccalaureate (IB)

Subject	**Acceptable Score**	**UW Course Number(s)/Title(s), Semester Credit Hours**
Adv. Math SL	4+	MATH 2200, 2205 (8), Calculus I and II
Social/Cultural Anthropology HL	4+	ANTH 2200 (3), World Culture
Social/Cultural Anthropology SL	4+	ANTH 1200 (3), Intro to Cultural Anthropology
Art/Design HL	4+	ART 1000 (3) General Art Studio and ART 1010 (3) General Art History
Biology HL	4+	LIFE 1010 (4), General Biology
Biology SL	4+	LIFE 1010 (4), General Biology
Business & Management HL	4+	MGT 2000 (3), Introduction to Business
Business & Management SL	4+	MGT 2000 (3), Introduction to Business
Chemistry HL	4	CHEM 1020 (4), Gen. Chemistry I
Chemistry HL	5+	CHEM 1020 (4) Gen. Chemistry and CHEM 1030 (4) Gen. Chemistry II
Chemistry SL	4+	ELEC 1000 (4), Physical Science Elective, USP SP
Computer Science HL	4+	COSC 1010, 1030 (8), Intro to Computer Science I and II
Computer Science SL	4+	COSC 1010 (4), Intro to Computer Science I
Economics HL	4	ECON 1000 (3), Global Econ. Issues
Economics HL	5+	ECON 1010(3), Principles of Macroeconomics; ECON 1020 (3), Principles of Microeconomics
Economics SL	4+	ECON 1000 (3), Global Econ. Issues
English Language A HL	4+	ENGL 1010 (3) College Composition and Rhetoric

English Language A SL	All Scores	No Credit
English Language A Literature HL	4+	ENGL 1010 (3) College Composition and Rhetoric
English Language A Literature SL	All Scores	No Credit
English Language B HL	5+	ELEC 1000 (3)
Enlgish Language B SL	All Scores	No Credit
Environmental Systems and Societies SL	4+	ENR 1200 (4), Environment
French Language A Literature HL	4+	FREN 1010 (4), 1st yr. French
French Language A Literature SL	All Scores	No Credit
French Language A Language and Literature HL	4+	FREN 1010 (4), 1st yr. French
French Language A Language and Literature SL	All Scores	No Credit
French Language B HL	4+	FREN 1010 (4), 1st yr. French
French Language B SL	All Scores	No Credit
French Language A/B Initio SL	All Scores	No Credit
French Literature and Performance SL	All Scores	No Credit
Geography HL	4+	GEOG 1010, 1020 (8) Introduction to Physical Geography and Intro to Human Geogtraphy
Geography SL	4+	GEOG 1010 (4) Introduction to Physical Geography
German Language A Literature HL	4+	Germ 1010 (4) 1st yr. German I

German Language A Literature SL	All Scores	No Credit
German Language A Language and Literature HL	4+	Germ 1010 (4) 1st yr. German I
German Language A Language and Literature SL	All Scores	No Credit
German Language B HL	4+	Germ 1010 (4) 1st yr. German I
German Language B SL	All Scores	No Credit
German Language AB SL	All Scores	No Credit
German Literature and Performance SL	All Scores	No Credit
History - American HL	4+	HIST 1210, 1220 (6), US History I and II
History-European HL	4+	ELEC 1000 (3)
History - Africa HL	4+	ELEC 1000 (3),
History - Asia and Oceania HL	4+	ELEC 1000 (3),
Information Technology/Global Awareness HL	4+	ELEC 1000 (3)
Information Technology/Global Awareness SL	4+	ELEC 1000 (3)
Japanese Language A Literature HL	4+	JAPN 1010 (4) 1st yr Japanese I
Japanese Language A Literature SL	All Scores	No Credit
Japanese Language A Language and Literature HL	4+	JAPN 1010 (4) 1st yr Japanese I

Japanese Language A Language and Literature SL	All Scores	No Credit
Japanese Language B HL	4+	JAPN 1010 (4) 1st yr Japanese I
Japanese Language B SL	All Scores	No Credit
Japanese Language A/B Initio SL	All Scores	No Credit
Japanese Literature and Performance SL	All Scores	No Credit
Foreign Language A Literature HL	4+	LANG 1010 (4) 1st yr Foreign Language I
Foreign Language A Literature SL	All Scores	No Credit
Foreign Language A Language and Literature HL	4+	LANG 1010 (4) 1st yr Foreign Language I
Foreign Language A Language and Literature SL	All Scores	No Credit
Foreign Language B HL	4+	LANG 1010 (4) 1st yr Foreign Language I
Foreign Language B SL	All Scores	No Credit
Foreign Language A/B Initio SL	All Scores	No Credit
Foreign Literature and Performance SL	All Scores	No Credit
Math Studies SL	SL 1-3	No Credit
Math Studies SL	SL 4+	ELEC 1000 U5Q
Math Analysis & Approach SL	SL 1-3	No Credit
Advanced Math SL	SL 4+	MATH 1450
Advanced Math SL	HL 1-3	No Credit

Math Analysis & Approach HL	HL 4+	MATH 2200
Math Analysis & Approach HL	SL 1-3	No Credit
Math Analysis & Approach HL	HL 4+	MATH 2200
Math Application & Interperation SL	SL 1-3	No Credit
Math Application & Interpretation SL	SL 4+	MATH 2200
Math Application & Interpretation HL	HL 1-3	No Credit
Math Application & Interpretation HL	HL 4+	MATH 2200 and MATH 2205
Math Studies SL	4+	ELEC 1000 (3), Quantitative Reasoning I
Music HL	4+	Music 1000 (3), Intro to Music
Music SL	4+	Music 1000 (3), Intro to Music
Music Theory SL	4+	Music 1000 (3), Intro to Music
Philosophy HL	4+	PHIL 1000 (3) Introduction to Philosophy
Physics HL	4+	PHYS 1110, 1120 (8), General Physics I and II
Physics SL	4+	PHYS 1110, 1120 (8), General Physics I and II
Psychology HL	4+	PSYC 1000 (3), General Psychology
Psychology SL	4+	PSYC 1000 (3), General Psychology
Spanish Language A Literature HL	4+	SPAN 1010 (4), 1st yr. Spanish I
Spanish Language A Literature SL	All Scores	No Credit
Spanish Language A Language and Literature HL	4+	SPAN 1010 (4), 1st yr. Spanish I
Spanish Language A Language and Literature SL	All Scores	No Credit

Spanish Language B HL	4+	SPAN 1010 (4), 1st yr. Spanish I
Spanish Language B SL	All Scores	No Credit
Spanish Language A/B Initio SL	All Scores	No Credit
Spanish Literature and Performance SL	All Scores	No Credit
Theatre HL	4+	THEA 1200 (3) Introduction to Design
Theatre SL	4+	THEA 1100 (3) Beginning Acting
Theory of Knowledge	B or A 4+	ELEC 1000 (3)
Performance/ Theatre Prod. HL	4+	THEA 2050 (3), Theatre Practice
Visual Art HL	4+	ELEC 1000 (12), Art Elective
Visual Art SL	4+	ELEC 1000 (6), Art Elective
World Religions SL	4+	RELI 1000 (3), Introduction to Religion

Portfolio Evaluations

In recognition of factors in our society that produce great individual differences in backgrounds and preparation of students entering the university, the university has developed various options to assess extrainstitutional college-level learning. To qualify for undergraduate credit, the student must be currently registered at the University of Wyoming as a degree candidate.

Credit based on faculty evaluation of the kinds and extent of collegelevel learning which an applicant has acquired in prior extra-institutional settings, evidenced in a portfolio of documentation, may count toward university undergraduate graduation requirements. In such event, the student's degree program can be enriched by freeing time needed to take additional courses, or accelerated to earn the baccalaureate degree earlier and commence postgraduate studies sooner.

The number of credit hours able to be earned by means of a portfolio evaluation is normally limited to 12. Such credit, when awarded, shall be for specific University of Wyoming content-oriented courses (rather than given as X number of hours of credit in a general discipline area), following the college course model of assessment as defined by the Council for Adult and Experiential Learning. Portfolio assessment, when used, will be conducted by a committee of appropriate tenured faculty including at least one member with the academic rank of professor. *All credit assigned for experiential learning based upon portfolio evaluations is excluded from the minimum credit hour requirements as set forth in the university requirements.*

II. Transfer Credit

Transfer credit includes college courses accepted from other regionally-accredited colleges or universities. Such course work must be considered equivalent or comparable to course work required by the University of Wyoming. The

university accepts only academic courses in the study of religion similar to those offered by the Religious Studies Program in the College of Arts and Sciences.

Students transferring to UW must have the registrar or records office of the previous school(s) send an official transcript to the University of Wyoming Admissions Office. Once all final transcripts have been received by the Admissions Office, the degree analysts in the Office of the Registrar will create an electronic record of all courses that transfer to UW.

Evaluations are not accomplished for students working toward a Second Bachelor's Degree or those admitted as non-degree seeking. Second Bachelor's students should consult with their adviser concerning the applicability of transfer work to their UW degree program.

The recording of credit does not automatically imply acceptance toward a degree since degree requirements vary from major to major. Questions concerning the transferability of course work from other institutions should be directed to the Office of the Registrar.

Nontraditional credits awarded by another institution will not normally be accepted by the University of Wyoming. They may be validated by departmental exam within the faculty regulations allowing for such examinations.

a. UW Policy (Academic Affairs Policy Letter, October 9, 2012)

UW maintains a system for accepting transfer credits from other institutions and prides itself on forward-looking approaches to distance education. The following clarifies policies for:

- Accepting transfer credit from Wyoming's public community colleges
- Accepting transfer credit for students transferring to UW from other institutions
- Accepting transfer credit for students enrolled at UW

1. **Transfer credit from Wyoming's public community colleges**
   UW generally accepts credit earned at any Wyoming public community college in accordance with the Wyoming Transfer Catalog. This policy applies to students transferring to UW and to students enrolled at UW who take courses at one of these community colleges while they pursue degrees at UW. It does not apply to FYS credit earned by students who earned concurrent enrollment FYS credit or students transferring with less than 30 semester hours.
   UW maintains an active regimen of institution-wide and discipline-specific articulation with Wyoming community colleges. These discussions, together with department-driven decisions about which courses to list in the statewide common course-numbering system, provide mechanisms that can ensure appropriate levels of course equivalency.
2. **Transfer credit for students transferring from other institutions**
   The UW Office of the Registrar (OTR) maintains a list of course equivalencies and courses accepted for general credit from other institutions of higher learning. In maintaining this list, the OTR, in consultation with academic departments as necessary, determines which outside courses:

- are equivalent to specific UW courses
- count for general university-level credit
- are not transferable for university-level credit

For courses beyond the 1000-2000 level and in cases where questions arise, the OTR relies on academic departments to assist in the assessment.

For any student transferring to UW from another institution of higher learning, UW will adhere to the OTR's equivalencies on the date that the transcript is evaluated. If a course in question has not previously been articulated, the OTR will follow the normal protocol to make a determination. If an academic department determines that an outside

course has been improperly articulated, the OTR will correct the equivalency. The corrected equivalency will apply to subsequent transfer students but not retroactively.

3.Transfer credit for students enrolled at UW

The university's faculty and administration expect UW students to earn credits by taking courses at UW. Exceptions may be appropriate in some instances. For example, the university encourages students to pursue opportunities to study abroad, whether through UW course offerings or through other approved programs. As another example, a student who spends a summer in another university town may also have a compelling case for taking a non-UW course and applying the credits to the UW transcript. There are many other possibilities.

For any student enrolled at UW, the university will guarantee transfer credits only for courses for which the student has received prior, course-specific approval from the Office of the Registrar. A Transfer Evaluation Form should be submitted prior to enrolling for a transfer course.

The only exceptions are transferable credits from Wyoming community colleges, as discussed above. In considering requests of this type, academic department heads may take into account the student's circumstances, department, and university-level learning outcomes such as global awareness, and the department faculty's assessment of the course's content, level, and academic rigor.

This policy has no effect on such programs as WICHE's Internet Course Exchange and other inter-institutional arrangements through which courses taught elsewhere count as credit-bearing UW courses.

b. Process

Transfer credit includes college courses accepted from other accredited colleges or universities. Such course work must be considered equivalent to course work required by the University of Wyoming. Students transferring to UW must have the registrar or records office of previous school(s) send an official transcript to the University of Wyoming Admissions Office. Once all final transcripts have been received by the Admissions Office, the degree analysts in the OTR will create an electronic record of credit transferred.

The recording of credit does not automatically imply acceptance toward a degree since degree requirements vary from major to major. Questions concerning the transferability of course work from other institutions should be directed to the Office of the Registrar.

c. Articulation: Earned Associate Degrees

1. **Wyoming Community Colleges**
   Students entering UW beginning Fall 2001 who have completed an AA, AS, ADN, or AB degree from a Wyoming Community (spring 2001 or later) College receive credit toward completion of the lower division general education requirements included in the University Studies Program with the exception of the US/WY Government and Constitutions requirement. Students with an eligible associate's degree who have not completed both components of the US/WY Government and Constitutions requirement must complete it with coursework or challenge exam.
   This policy applies to graduates receiving an Associate of Arts, and Associate of Sciences, Associate Degree Nursing, or an Associates of Business degree from any of the seven Wyoming Community Colleges. All graduates with an AA, AS, ADN, or AB degree complete a minimum of 64 college-level credits with a minimum of 2.000 GPA.
2. **Community College Articulation: effective spring 2012**
   Graduates of regionally-accredited Colorado community colleges earning an AA/AS Spring 2012 or later are awarded the lower-division general education core in the same manner as graduates of Wyoming community colleges, with the exception of the US/WY Government and Constitutions requirement. Students must

complete the Wyoming component through coursework or challenge exam. Spring 2008 (and later) graduates of Pikes Peak Community College are included due to a pre-existing articulation agreement.
Spring 2012 and later AA/AS graduates of Western Nebraska, Mid- Plains (Nebraska), and Colby (Kansas) Community Colleges will be extended the lower-division general education core in the same manner as Colorado schools above.

3. **Community College Articulation: effective spring 2015**
   Graduates of regionally-accredited institutions earning an AA/ AS/AB Spring 2015 or later are awarded the lower-division general education core in the same manner as graduates of Wyoming community colleges, with the exception of the US/WY Government and Constitutions requirement. Students must complete the Wyoming component through coursework or challenge exam.

Transfer Credit from Regionally-Accredited U.S.Colleges and Universities

The Wyoming Transfer Catalog is a searchable online database of courses which the University of Wyoming has previously articulated from regionally-accredited U.S. institutions. Coursework may transfer in as equivalent, elective or NA. Elective coursework may be a general elective, academic department specific elective and/or elective with University Studies (USP) credit. Transfer courses which return values of "NA" in the UW Subject field are considered to be not transferable to UW.

UW operates on semester credit; credit is awarded credit hour for credit hour. Quarter hours are recognized as two-thirds (2/3) of a semester hour.

Academic advisors may submit an elective course to fulfill a major or curricular requirement. Elective courses may also be considered for University Studies requirements via the University Studies Petition process.

Students intending to transfer to UW are encouraged to meet with advisors and review both the Wyoming Transfer Catalog and the UW Catalog when planning their program of study to ensure courses taken elsewhere will transfer to UW as intended for their desired major. Final determination of transfer credit acceptance is made by the University Registrar and faculty. Students must submit official transcripts of all completed coursework before a final determination can be made on credit transfer.

These equivalencies are subject to change without notice.

d. Transfer Credit for Study Abroad

Study abroad coursework is evaluated based off the documentation provided by the student and what is available to the Office of the Registrar. It is the students' responsibility to review the transfer work and to provide any course documentation (syllabi, descriptions, sample course work) to the Office of the Registrar. Once the transcripts received from the study abroad experience have been evaluated, students will have one year from that date to make any appeals or changes to what was initially awarded. Requests for changes to transfer credit awarded through study abroad following one year of the initial review will not be processed.

III. Credit Evaluation Policy for VA Funded Students

The degree analysts in the Office of the Registrar determine whether the course work is transferable to UW. Evaluations for the granting of credit for military-based training are based on recommendations in the American

Council of Education (ACE) guidelines. Individual colleges will determine whether such course work is applicable to their degree programs.

Advising Career Exploratory Studies (ACES)

Advising, Career, Exploratory Studies Center

Richard Miller, Director
222 Knight Hall, (307) 766-2398
Web site: www.uwyo.edu/aces

The Advising, Career, Exploratory Studies Center (ACES) provides a variety of services to UW students, including advising Exploratory Studies and Bridge students; providing academic support to various populations of probationary, conditionally admitted, and reinstated students; assisting students campus-wide with their career exploration, planning, and job search needs; assisting in coordinating discussions, information dissemination, and event planning between the various professional advisors and advising offices on campus; and coordinating national tests and exams through the University Testing Center in Coe Library, Room 219.

ACES is committed to providing a comprehensive and integrated service that moves a student along a continuum of receiving academic advising, exploring academic and career options, selecting a college major, and finally, implementing his/her degree in the world of work.

Exploratory Studies and students admitted with support, placed on probation, or reinstated to the university are highly encouraged to meet with a ACES career counselor. The purpose of this meeting is to analyze the student's past academic progress and future career goals to develop a strategic plan to maximize his/her academic success and future employment opportunities. ACES also works closely with other campus offices and departments to engage students in available study skill and tutorial resources.

Students interested in engaging in career exploration activities may make an appointment to meet with a career counselor to discuss their career goals and/or confirm their choice of major. Various assessment tools that provide feedback on the match between a student's interests or personality type and the world of work, are available. ACES career specialists provide information pertaining to a broad range of career fields, internship opportunities, specific employer information, general job search strategies, and federal government application processes.

Students are advised on how to use the HANDSHAKE platform on the ACES homepage to find out about and apply for summer, internship, and permanent job opportunities. Each year numerous employer representatives from business, industry, health care, education, and government visit ACES to interview students for these types of opportunities. All information pertaining to these visits is contained in the HANDSHAKE link on the ACES homepage.

The campus wide experiential learning program SOAR is coordinated in the ACES office. Students are advised how to contribute to and utilize their own personal profile to help better prepare them for career or graduate school.

ACES hosts numerous general and specialized job fairs each year for students and alumni. Upcoming job fair dates can be found on the ACES homepage.

The University Testing Center: The University Testing Center coordinates national tests and exams and is housed in the second fllor of COE Library, Room 219. Students may register to take national tests and professional school entrance exams. Information is available on the University Testing Center web site www.uwyo.edu/UTC or by calling (307) 766-2188.

Advising Career Exploratory Studies

222 Knight Hall

Richard Miller, Interim Director
Phone: (307) 766-2398 FAX: (307)766-2089
Web site: www.uwyo.edu/aces/index.html

Advising Career Exploratory Studies

ACES 1101 - FYS: New Geography of Jobs

ACES 1105 - Academic Success Skills

ACES 1150 - Major & Career Exploration

ACES 3000 - Peer Advising

ACES 3100 - Peer Advising Internship

Registration and Enrollment in Courses

- Registration Procedures
- Academic Advisor
- Change of Registration
- Choice of College and Major
- Change of College, Major, or Advisor
- Definitions for Student Classifications
- Credit Hour Load
- Auditing a Course
- Graduate Credit for Seniors
- Class Attendance
- Academic Dishonesty

Registration Procedures

Eligible students can register, drop, add, and get a schedule of their courses through WyoRecords. To insure that students have seen an adviser, access numbers for each semester's registration are distributed through the academic advisers. Directions for registration are contained in the appropriate *Class Schedule*. *Class Schedules* are available online no later than one week prior to advising week. Students are responsible for following directions and deadlines contained in the *Class Schedules*.

The following categories of continuing students in good standing or on academic probation are eligible to register for the semesters indicated:

1. *For the fall semester:*
   All students who were enrolled the previous fall, spring, or summer semester.
2. *For the spring semester:*
   All students who were enrolled the previous spring, summer, or fall semester.

3. *For the summer session:*
   Students who were enrolled the previous summer, fall, or spring semester.

All other applicants and students should complete admission requirements by the admission deadline. (Refer to the sections on undergraduate and graduate admissions in this catalog for deadlines.)

All information requested during admission and registration is important to the student and to the university and should be kept accurate and complete. If a student's address, telephone, major, adviser, or other vital information changes after enrollment, the Office of the Registrar should be informed without delay.

Academic Advisor

Academic advising is a decision-making process involving a partnership between the academic advisor and the student (advisee). In this partnership, issues and questions regarding personal, professional, and educational goals are examined and evaluated. This includes, but is not limited to, planning an appropriate course of study and the scheduling of classes.

The purpose of academic advising is to promote rational, informed, and independent choices by the student. To that end, the academic advisor is a significant link for the student to other resources in the university community. Students are expected to take the initiative in developing the advisor-advisee relationship and to assume an ever-increasing role in developing their own academic, career, and personal goals.

Change of Registration

Modification of a course schedule during the drop/add time period is accomplished through WyoRecords. After the end of the drop/add period, individual class withdrawals can be done by the students on WyoRecords. Changes to a student's registration or withdrawals are not official until the process is completed as prescribed.

The period of time allowed for modifying a student's schedule or withdrawing during the summer session or other special terms is established in regulations or by the registrar, subject to the approval of the vice president for academic affairs.

During the fall and/or spring semester(s):

1. *Dropping a class or changing sections:* A student may drop classes during the first eight class days of the semester (four class days for blocked courses).
2. *Adding a course or changing grading option:* A student may add classes, change sections, or change grading options or hours in variable-credit courses during the first four class days of the semester (two class days for blocked courses).
3. *Withdrawal from a course:* After the designated drop/add period, students may officially withdraw from individual regular term courses until fifteen class days after mid-semester (five days after the middle of the course for blocked courses). Withdrawing means that a non-punitive grade of "W" is assigned as the final grade for the class. Students considering withdrawing should contact the Student Financial Aid Office prior to withdrawing to fully understand how withdrawing will affect their aid and scholarships.
   Students may withdraw from an individual course through their WyoRecords account. If a student has a hold on their account preventing them from withdrawing through WyoRecords, they may submit an online Class Withdrawal form available on the Office of the Registrar website. The online form is required for students who wish to withdraw from First Year Seminar classes.
   Refunds for course withdrawal (when applicable) are based on the date the withdrawal is processed, not on submission of the online petition.
   When a class has a status of "Indiv Course Withdrawal" on the "Add or Drop Classes" page in WyoRecords,

the student has officially withdrawn. Students may also confirm that a final grade of "W" is noted on the transcript, which may be viewed through WyoRecords.
Unauthorized discontinuance of enrollment or unofficial abandonment of classes will result in a failing grade.

4. *All-School-Withdrawal (termination of enrollment):* Withdrawal from the university is the official termination of student status prior to the end of a fall or spring semester, but students may otherwise register for classes for the subsequent semester if they choose to do so. Students wishing to withdraw from all on-campus classes should initiate the procedure with the Dean of Students Office. Withdrawal from the university is not permitted during the last 15 days of a term. After clearing with the Dean of Students Office, the withdrawal form must be presented to the university cashier for initial processing. The Office of the Registrar will report withdrawals to instructors concerned. Students withdrawing from distance classes should send an email to the Office of the Registrar to initiate the process.

Choice of College and Major

The academic adviser is an excellent source of information about the adviser's professional field for students who have selected a major. Students who are undecided about the selection of a college and/or major and who seek specialized assistance in choosing educational and vocational objectives should contact the Advising, Career, and Exploratory Studies center. These units have programs designed to help the undeclared student acquire the tools to make an intelligent decision regarding an appropriate major discipline.

Change of College, Major, or Advisor

Students who wish to change their college, major, or advisor should obtain the appropriate form from either the Office of the Registrar or the office of the dean of the college of their current enrollment. Students wishing to transfer from one college to another must secure the signatures of both their present and future deans. Graduate students need the approval of the college dean and the head of the department to which the student is transferring. After all appropriate signatures have been obtained, the student should take the form to the Office of the Registrar.

Students who have completed their undergraduate work at the university and who wish to embark upon a graduate program, even through continuing their graduate work in the same field they pursued as undergraduates, will need to apply for graduate admission. (Refer to the section on graduate admission in this catalog for deadlines.)

Definitions for Student Classifications

Code	Class	Definition by earned semester hours
FR	Freshman	Under 30
SO	Sophomore	30 but less than 60
JR	Junior	60 but less than 90
SR	Senior	90 or more
GR	Graduate Student	
LW1	Law student (professional level) first year	

LW2	Law student (professional level) second year
LW3	Law student (professional level) third year
MD1	Medical student (professional level) first year
PH1	Pharm.D. (professional level) first year (0-33 semester hours)
PH2	Pharm.D. (professional level) second year (34-69 semester hours)
PH3	Pharm.D. (professional level) third year (70-104 semester hours)
PH4	Pharm.D. (professional level) fourth year (105+ semester hours)

Credit Hour Load

Undergraduates: An average of 15 hours of coursework each semester is considered a normal load. Maximum credit loads are 20 hours in all colleges. Normally, not more than 12 hours of undergraduate credit may be taken during the summer session. An approved Overload Petition form must be filed to exceed these maximums. Overload Petition forms are available online or from the Office of the Registrar.

Graduate students: 14 hours of credit is the average and 16 hours the maximum amount of credit allowed per semester for full-time graduate students. A student who has been assigned an assistantship for the academic year is usually restricted to a load of 13 semester hours. Normally, not more than 8 hours of credit may be earned in course work during an eight-week summer session. An approved Overload Petition form must be filed to exceed these maximums. Overload Petition forms are available online or from the Office of the Registrar.

Auditing a Course

The privilege of non-credit enrollment in a class is available to any university student. The auditing privilege is subject to the same fee schedule as credit courses. Auditors are expected to attend class regularly and complete such graded work as required by the instructor. It is the responsibility of the student to determine and fulfill the requirements for a satisfactory audit. Though this auditing privilege carries full rights of class participation, it definitely offers no academic credit, does not count toward full- or part-time status, and will result in a mark of satisfactory (SA/S) or unsatisfactory (UA/U). Subsequent credit for the course by special examination is not available.

Graduate Credit for Seniors

Undergraduate students taking graduate-level courses which are not in any way a part of their undergraduate degree have the option of later using such courses for purposes beyond the bachelor's degree requirements. If the student intends to pursue a graduate degree or needs the courses noted on the academic transcript as reserved for graduate credit for job classification (e.g. advancement on teacher salary schedules) the student should file a petition. The Request to Reserve Coursework for Graduate Credit should be filed by midterm of the semester which is requested. The petition form is available on the Graduate Student Forms page on the Office of the Registrar website. Courses may not be retroactively reserved once a semester has ended.

Class Attendance

Each student shall attend the lectures, recitations, and laboratories, and participate in field work deemed necessary to adequately fulfill the academic requirements of each course. Each instructor, at the beginning of every semester, shall stipulate the attendance policy necessary for satisfactory completion of the course.

The Dean of Students Office may issue authorized absences for participation in university-sponsored activities and for other unusual circumstances. If students have been hospitalized, or if they have been directed by the Student Health Service or their private physician to stay at their place of residence because of illness, the Student Health Service or their private physician may issue a statement giving the dates of the student's confinement which the student may show to the instructor without verification from the Dean of Students Office. The Student Health Service has a policy not to provide medical excuses for missed classes. Please review the policy at http://www.uwyo.edu/shser/ medical-excuses.html.

All instructors shall permit students who have official authorized absences to make up missed course work without penalty. An authorized absence, however, merely gives the individual who missed the class an opportunity to make up the work and in no way excuses him or her from the work required.

When a class has a status of "Indiv Course Withdrawal" on the "Register for Classes" page in WyoRecords, the student has officially withdrawn. Students may also confirm that a final grade of "W" is noted on the transcript, which may be viewed through WyoRecords.

Unauthorized discontinuance of enrollment or unofficial abandonment of classes will result in a failing grade.

Academic Dishonesty

Whatever form academic dishonesty may take, the university community regards it as a serious offense. An act is academically dishonest when, and only when, it is an act attempted or performed in order to misrepresent one's involvement in an academic task in any way. Such conduct will result in imposition of sanctions pursuant to University Regulations.

It is the responsibility of both the student and person in charge of an academic task, respectively, to make reasonable efforts to learn of, or make known, the expectations and standards of conduct required in the performance of an academic task. Failure on the part of the student to observe and maintain required standards of academic honesty will require corrective action by officials.

Admission to the University

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- Readmission
- Readmission for Military Service Members
- Residency Student Classification
- Student Classification for Tuition Assessment
- Measles, Mumps, Rubella (MMR)
- Campus Safety

Admissions Office
150 Knight Hall
Department 3435
1000 E. University Avenue
Laramie, WY 82071-2000
www.uwyo.edu/admissions
307-766-5160
800-342-5996

Undergraduate Admission

UW welcomes all students to apply and will consider each student based on their individual academic achievement. Admission and programs of the University of Wyoming are offered to all eligible people without regard to race, gender, religion, color, national origin, disability, age, protected veteran status, sexual orientation, gender identity, genetic information, creed, ancestry, political belief, or any other applicable protected category. The Director of Admissions, through the Provost, is responsible for the admission of students. Admission of graduate students must also be recommended by the department of an applicable graduate program.

I. Definitions

Diploma: A formal document certifying the successful completion of a prescribed program of studies.

First Time Student: A student who has no prior postsecondary experience attending any institution for the first time at the undergraduate level. There are two exceptions: (1) students who attended any institution for the first time the summer prior to entering the University of Wyoming in the fall term and (2) students who enter UW with advanced standing (college credits earned before graduation from high school).

High School Student: A student enrolled in secondary school or pursuing a high school diploma or recognized equivalent. Includes students who have not received but are pursuing a high school diploma or recognized equivalent and taking college coursework concurrently.

High School Success Curriculum: Coursework during high school that includes successful completion of the following:

A. Four (4) years of English;
B. Four (4) years of math (including algebra I, II, and geometry);
C. Four (4) years of science (including at least one year of physical science);
D. Three (3) years of social science;
E. Four (4) years of additional coursework including at least two (2) years of related courses taken in sequence (including fine and performing arts, career-vocational education, or foreign language).

Nationally Standardized Tests: ACT Assessment (ACT) or SAT Assessment (SAT) test results. Test results must be sent to the Admissions Office. SAT Assessment scores will be based off the Evidence-Based Reading and Writing + Math sections.

Returning Student: A student who previously attended UW but has not been enrolled for three consecutive semesters, including a summer term.

Transfer Student: A student entering the University of Wyoming for the first time but known to have previously attended a postsecondary institution at the same level (e.g., undergraduate, graduate). The student may transfer with or without credit.

II. Undergraduate Admission Requirements

All applicants for admission under twenty-one (21) years of age or transfer students who have fewer than twelve (12) transferable semester credit hours after high school, must provide an official copy of their ACT or SAT test results. Test results must be sent to the Admissions Office.

A. First Time Students

Admission into a degree seeking program shall be based on individual academic achievement. The University seeks to admit qualified undergraduate students who are new first time students or students that are concurrently enrolled in post-secondary education classes.

To be considered for admission, prospective students must submit an application, a one-time nonrefundable application fee, official high school transcripts (or high school equivalency exam), and an official ACT or SAT test score (if the applicant is under 21) to the University's Office of Admissions.

B. Assured Admission

Assured undergraduate admission shall be granted to high school graduates who meet the following requirements:

1. A cumulative, unweighted high school GPA of 3.000 (on a 4.000 scale)

2. A minimum composite ACT score of 21 or SAT score of 1060; and

3. Completion of the High School Success Curriculum while attending high school.

*UW is test optional for admission purposes for incoming students through fall 2025, spring 2026, and summer 2026. PLEASE NOTE: check where test scores are required for scholarship consideration.

C. Admission with Support

Undergraduate admission with support shall be granted to high school graduates who meet the following requirements:

1. A cumulative, unweighted high school GPA of 2.500-4.000 and a minimum ACT score of 17 or SAT score of 900, or 2.250-2.490 and a minimum composite ACT score of 20 or SAT score of 1020; and
2. Completion of the High School Success Curriculum with no more than two deficiencies. Both deficiencies cannot occur in the same curriculum category.

Students admitted with support are required to participate in the University's academic transition programs administered by the Learning Resource Network (LeaRN).

*UW is test optional for admission purposes for incoming students through fall 2025, spring 2026, and summer 2026.

D. Admission with Alternative Educational Credentials

Undergraduate applicants with General Education Development (GED) credentials or other approved alternative educational credentials (i.e., High School Equivalency Test (HiSet)) should contact the University's Office of Admissions for specific application requirements. Students under 21 years of age with GED or the approved credentials must also have a minimum ACT score of 17 or SAT score of 900.

E. Transfer Students

Transfer students with twelve (12) or more transferable hours after high school must submit an application, a one-time nonrefundable application fee, and official transcripts from each previously-attended higher education institution. Transfer students must have at least a 2.000 cumulative GPA for undergraduate admission.

Transfer students with eleven (11) or less transferable hours after high school must also submit, official high school transcripts (or approved alternative education credentials), official ACT or SAT test score (if the applicant is under 21) and official transcripts from each previously-attended higher education institution. Admissions to transfer students with eleven (11) or less transferable hours must have at least a 2.000 cumulative GPA as well as meet the assured admissions requirements for first time students.

Official transcripts must be sent directly from the institution(s) to the University's Office of Admissions. Failure to disclose all previously attended institutions will be seen as a deliberate attempt to withhold academic history and may be reason for denied admissions and/or dismissal.

F. Home Schooled Students

Home schooled students shall be considered for admissions under the same requirements as First Time students.

G. Returning Students

Students returning to the University of Wyoming after not registering for classes for three or more consecutive semesters, including a summer term will need to submit a new application, provide official transcripts from all institution(s) attended since leaving the University of Wyoming, and be in good academic standing. Failure to disclose information about all institution(s) attended will be seen as a deliberate attempt to withhold academic history and may be reason for denied admissions and/or dismissal. Returning students must have a minimum 2.000 cumulative GPA from all undergraduate institutions.

Students suspended from the University of Wyoming must complete the reinstatement process. Academic reinstatement to the University of Wyoming does not constitute admissions to the institution. Students seeking reinstatement are required to meet admissions eligibility and criteria.

H. Holistic Alternative Admission

The University has the discretion to admit students who do not qualify under the above-described criteria.

III. International Students

Admission of international students is governed by the Admission Policy for International Students. This Policy is supplementary to the general admission policies described in this Regulation and provides for general admission standards for all international student applicants, including procedures for review and consultation with the various academic colleges and departments.

The Admission Policy for International Students shall be maintained and revised as determined by the Provost. Revisions are subject to the approval of both the Provost and the Vice Provost for Enrollment Management, and shall become effective from the date of their approval.

The Admission Policy for International Students shall be published and distributed by the Office of Admissions and will be available through the Admission Office's website.

IV. High School Guests

High school students requesting admission as high school guests must submit transcripts demonstrating a cumulative high school GPA of 3.000 on a 4.000 scale (official high school transcripts must be sent directly from the high school to the Office of Admission); a written recommendation from a high school counselor or principal; and official ACT or SAT test scores, if any.

V. Non-Degree Students

The non-degree admission status is a special status that is not available to international students or students who have a suspension status at UW or another college or university.

Applicants seeking admission as non-degree undergraduate students must submit an application and a one-time nonrefundable application fee to the Office of Admissions. Under this admission status, undergraduate students may take a maximum of eight (8) credit hours per semester and cannot apply more than twelve (12) total credits taken as a non-degree student toward an undergraduate degree.

VI. Second Bachelor's Degree Students

Students who have received a bachelor's degree from the University of Wyoming and are seeking a second bachelor's degree, but have not taken coursework since graduation, must submit a new application.

Students who have received a bachelor's degree from another institution, or who graduated from the University of Wyoming and have taken courses at another institution since leaving the University, must submit an application, a one-time nonrefundable application fee, and official transcripts from each previously-attended higher education institution. Official transcripts must be sent directly from the institution to the University's Office of Admissions.

Graduate Admission

I. Graduate Applicants

Prospective students are encouraged to consult with their respective academic department regarding the admission process before making a formal UW application.

Applicants must submit the UW graduate application and the nonrefundable application fee. One set of official transcripts must be sent directly to the UW Admissions Office from each previous collegiate institution.

Domestic applicants must have completed a bachelor's degree or equivalent from a regionally accredited institution. All applicants should have at least a 3.000 cumulative GPA (scale of 4.000).

Some graduate programs may require standardized examination scores for admission.

Applicants whose department requires the Graduate Record Examination (GRE) must request official scores be sent to the Admissions Office directly from the Educational Testing Service (ETS). Our institution code with ETS is 4855.

Some departments may require scores from the Graduate Management Admission Test (GMAT), rather than the GRE.

Letters of recommendation may also be required by some departments. Please see the academic department or program entries elsewhere in the Catalog for details about admission requirements.

Graduate applicants should contact the respective academic departments for questions concerning application status, degree program requirements, deadlines, and supplemental application materials they may require.

A. Admission Status Categories

Advanced-degree applicants may be admitted to the University of Wyoming in one of the following categories:

1. Admitted Graduate Student signifies the applicant has been accepted by the university and by a major department to work toward an advanced degree.

2. Conditional admission of a Graduate Student signifies the applicant did not meet the formal admission requirements but has sufficient potential that the university and the major department are convinced that the student will be successful as an advanced-degree candidate. Conditions are usually placed on such students in the form of performance criteria for the first one or two semesters. If the conditions of admission are not met within first two semesters, the student may be denied admission to the university graduate program and the degree program. At minimum, conditionally admitted graduate students must maintain a 3.000 GPA through their first semester. Failure to do so will result in revocation of admission. More restrictive conditions may be defined by the department.

Students admitted with graduate standing may elect to take any undergraduate or graduate courses for which they are prepared, subject to restrictions as outlined in the *University Catalog*. However, tuition will be assessed at the graduate level for all courses taken with graduate status. Admission to graduate study does not automatically make a student a candidate for an advanced degree.

Note: Students working toward a second bachelor's degree are not considered graduate students and are subject to all undergraduate regulations.

B. Professional Experience Track Graduate Admissions (PET)

Professional Experience Track graduate admissions are only available to individuals who have had <u>at least two years* of relevant post-baccalaureate professional experience and whose undergraduate cumulative GPA is less than 3.000</u>. Applicants who do not meet these basic criteria must be considered via regular graduate admissions. Applicants who do not meet the basic institutional, college and/or program regular admissions criteria may be considered for conditional admission.

Admission via the Professional Experience Track is full graduate admission. If a student is admitted via PET, they are admitted fully and are not subject to any of the restrictions that would come with conditional admission. No conditional

admissions will be allowed under Professional Experience Track admissions; all conditional admissions must go through the regular track admissions process.

*Programs may specify a longer period of post-baccalaureate professional experience. Please consult with the program in which you are interested.

Professional Experience Track Application Materials

The following must be submitted by the applicant to be considered for Professional Experience Track admission:

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required as part of the transcript requirement.
- A minimum of two letters of recommendation from:
    - a current or former college/university instructor of the applicant; and/or
    - a current or previous professional supervisor of the applicant.
    - Additional letters may be required by programs at their discretion.
- A statement of purpose that contains the applicant's:
    - Professional/career goals.
    - Educational goals.
    - Statement of how the graduate program will help the applicant attain their educational and professional goals.
    - Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
    - Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.
    - Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).
    - Any special skills or competencies (including any certifications or licenses). List of publications, prizes, awards, or other recognitions.
    - List of service/volunteer activities.

Please contact the program in which you are interested to see if Professional Experience Track Admissions is an option.

II. International Graduate Applicants

All graduate international students must submit the following in addition to the UW graduate application, official transcripts, and application materials required by the academic department.

1. Provide proof of English proficiency if student's native language is not English. The University of Wyoming accepts a variety of English proficiency exams. While the most popular are TOEFL (540 or 76 minimum for iBT), IELTS (6.5 minimum), Duolingo (110 minimum), and Cambridge English B2 First, C1 Advanced or C2 Proficiency (176 minimum), other accepted exams and ways to satisfy the English Proficiency requirements are available. Please note that some programs/departments may require higher scores than what is required by the Admissions Office.
2. Provide proof of financial support. The Confidential Financial Statement for graduate international applicants can be found on the Admissions Office page, http://www.uwyo.edu/admissions/international/requirements-graduate.html. Students who are awarded a full graduate assistantship may not need to provide this documentation.
3. Provide a copy of student's passport. This passport copy can be submitted via a scanned e-mail to admissions@uwyo.edu.

More information on the international admission requirements for graduate students can be found on the Admissions Office website, http://www.uwyo.edu/admissions/international/requirements-graduate.html.

III. Graduate Non-Degree Student

1. Must complete and submit a Non-Degree Student application including a non-refundable application fee.
2. Transcripts are required for proof of undergraduate degree for non-degree status, and must be submitted to the Admissions Office.
3. Non-degree students may enroll in a maximum of 8 credit hours per semester (maximum of two courses). Only 12 credit hours taken in this status may be used towards a UW degree. This 12-credit hour rule may be decreased if prior courses were reserved for graduate credit as either an undergraduate or as non-degree student.
4. Admission with non-degree status is not available to international students or students on suspension.
5. Students admitted with non-degree status are assessed tuition and fees at the same tuition rate as degree-seeking students.
6. Students admitted with non-degree status do not qualify to receive financial aid.
7. Non-degree graduate students who decide to pursue a degree must apply to and be accepted by their respective graduate program and the Admissions Office.

IV. Western Interstate Commission for Higher Education (WICHE) Western Regional Graduate Program (WRGP)

The Western Interstate Commission for Higher Education (WICHE) was created in 1953 by the governors and legislators of the western states. The primary commitment is to provide access to educational programs through interstate cooperation. Wyoming provides opportunities for qualified residents in the following programs:

Western Regional Graduate Program (WRGP) provides opportunities for qualified Wyoming residents to attend distinctive or health-related graduate programs in participating WICHE states and territories. Those accepted pay resident or significantly reduced tuition at the school they attend. Graduate students from WICHE states or territories interested in the Haub School of Environment and Natural Resources, Doctorate of Nurse Practice and Graduate Social Work may be eligible for reduced tuition via the WRGP program.

Information about the WICHE WRGP program may be obtained from the WICHE Certifying Office; Dept. 3432, 1000 E. University Ave, Laramie, WY 82071; (307) 766-3499 or certoff@uwyo.edu or from WICHE, 3035 Center Green Drive, Suite 200; Boulder, CO 80301-2204, (303) 541-0214.

College of Law Admission

(307) 766-5419
E-mail: lawadmis@uwyo.edu
Web site: www.uwyo.edu/law/

1. Admission to the professional curriculum of law is granted by the College of Law Admissions Committee. The College of Law reserves the right to restrict the number of entering students to a class size consistent with its facilities and its educational objectives. Additional information and requirements are provided on the College of Law website.
2. Complete the electronic University of Wyoming College of Law Application for Admission through LSAC between September 15 and April 30 - reviews begin October 1. Applications that are received and complete by December 15 will be considered for early admission.

3. Submit the application fee online through the College of Law website or by sending a check or money order to the College of Law.
4. Applicants must have a bachelor's degree from an accredited college or university (subject to some limited exceptions).
5. Take the Law School Admission Test (LSAT) administered by the Law School Admission Council (LSAC) no later than the April administration. Information about the test, dates, test locations and application form may be obtained from LSAC, Box 2000, Newtown, PA 18940-0998, (215) 968-1001, or on the Web at www.lsac.org.
6. Register with LSAC's Credential Assembly Service (CAS) between September and January. Registration with CAS can be completed through the LSAC website (www.lsac.org). An official transcript from each college attended must be sent directly to CAS. It is advisable to register with CAS at the same time one registers for the LSAT. CAS prepares a report and forwards a copy to each law school to which application has been made. Applicants do not send transcripts directly to the College of Law until they are admitted. For more information about CAS, go to www.lsac.org.
7. International students must supply current TOEFL scores. Minimum scores required for admission are 600 on the written exam or 100 on the internet-based exam. International students must take the LSAT exam and register with the Law School Admissions Council (www.lsac.org). If a transcript analysis will not be provided by the LSAC for any foreign educational institutions attended, official transcripts must be provided with an English translation.

School of Pharmacy Admission

Admission to the pre-pharmacy program is through the university admission process described previously.

Admission to the Doctor of Pharmacy (Pharm.D.) degree is granted by the Dean of the School of Pharmacy upon the advice of the School of Pharmacy Admissions Committee. The application process requires that students apply to the School of Pharmacy using PharmCAS, for more information about PharmCAS log on to www.Pharmcas.org. Admission to the Pharm.D. program is limited and competitive. The Pharmacy Early Assurance program grants provisional admission to the Pharm.D. program to qualified freshman who meet program requirements. All preprofessional students participate in the pharmacy application process. For further information, contact the School of Pharmacy, Dept. 3375, 1000 E. University Ave., Laramie, WY 82071; (307) 766-6125.

Professional Health Access Programs

Western Interstate Commission for Higher Education (WICHE) Professional Student Exchange Program (PSEP)

The Western Interstate Commission for Higher Education (WICHE) was created in 1953 by the governors and legislators of the western states. The primary commitment is to provide access to educational programs through interstate cooperation. Wyoming provides opportunities for qualified residents in the following programs:

Professional Student Exchange Program (PSEP) offers certified Wyoming residents access to professional education in the fields of dentistry, occupational therapy, optometry, osteopathic medicine, physical therapy, physician assistant, podiatry, and veterinary medicine. To be eligible for certification, the applicant or a spouse must be a legal resident of the State of Wyoming for one year immediately prior to enrolling in professional school. Applications for certification are available by June 1 at www.uwyo.edu/certwy and are due no later than October 15 of the year preceding the

anticipated start date of professional school. Applicants who are accepted to a professional program and who receive state support pay reduced tuition. In all fields except veterinary medicine, students receiving state support must either pay back the money expended on their behalf, or practice in their fields in the state of Wyoming for three years. State support is dependent on continued appropriations from the Wyoming State Legislature. The University of Wyoming School of Pharmacy welcomes applicants from residents of Alaska, Nevada and the CMNI through the PSEP program. Students accepted through PSEP may be eligible for tuition support from their home state or territory.

Information about WICHE PSEP program may be obtained from the WICHE Certifying Office; Dept. 3432, 1000 E. University Ave, Laramie, WY 82071; (307)766-3499 or certoff@uwyo.edu or from WICHE, 3035 Center Green Drive, Suite 200; Boulder, CO 80301-2204, (303) 541-0214.

WWAMI Medical Education Program

WWAMI is a contract program between the State of Wyoming and the University of Washington School of Medicine for medical education. Admission is twofold.

1. Applicants must be certified residents of Wyoming. To be eligible for certification, the applicant or parent or guardian must be a legal resident of the State of Wyoming for five continuous years immediately prior to enrolling in the WWAMI program. The application for certification is available by June 1 at www.uwyo.edu/certwy and is due no later than October 15 of the year prior to the anticipated start date of medical school. Participants pay reduced tuition and must either pay back the money expended on their behalf plus interest or practice medicine in Wyoming for three years.
2. Applicants apply to the University of Washington School of Medicine through the usual procedures and are subject to criteria established by the University of Washington.

Information may be obtained from the WWAMI Certifying Office, Dept. 3432, 1000 E. University Ave., Laramie, WY 82071; (307) 766-3878 or certoff@uwyo.edu.

WYDENT Dental Education Program

WYDENT is a contract program between the State of Wyoming and the University of Nebraska College of Dentistry and Creighton University School of Dentistry for dental education. Admission is twofold.

1. Applicants must be certified residents of Wyoming. To be eligible for certification, the applicant or parent or guardian must be a legal resident of the State of Wyoming for five continuous years immediately prior to enrolling in dental school. The application for certification is available by June 1 at www.uwyo.edu/certwy and is due no later than October 15 of the year prior to the anticipated start date of dental school. Participants pay reduced tuition and must either pay back the money expended on their behalf or practice dentistry in Wyoming for three years.
2. Applicants must apply to the dental schools through the usual procedures and are subject to admission criteria established by the dental schools.

Information is available from the WYDENT Certifying Office; Dept. 3432, 1000 East University Ave; Laramie WY 82071; (307) 766-3878 or certoff@uwyo.edu.

Other Information

Western Interstate Commission for Higher Education (WICHE) Western Undergraduate Exchange (WUE)

The Western Interstate Commission for Higher Education (WICHE) was created in 1953 by the governors and legislators of the western states. The primary commitment is to provide access to educational programs through interstate cooperation. Wyoming provides opportunities for qualified residents in the following programs:

Western Undergraduate Exchange (WUE) allows residents of participating states and territories to attend a participating institution at reduced cost of 150% of the institution's resident tuition. Not all programs in the participating states offer WUE opportunities. The University of Wyoming invites competitive graduating high school senior from all WUE states and territories to apply for the WUE tuition discount. All undergraduate UW majors are eligible for WUE support. Information is available from the UW Admissions Office.

Wyoming Senior Citizen Policy

Wyoming senior citizens, age 65 and over, who have been admitted to UW may enroll in university courses on a space available basis at no cost upon presentation of evidence of age and Wyoming residence prior to the beginning of the term in which classes will be taken.

Scheduled Distance Education classes which meet minimum enrollment requirements are included in the courses available to senior citizens.

Board of Trustee Retirement Benefits

Beginning Spring 2002, official board retirees may attend University of Wyoming classes on a space available basis at no cost. To qualify for this benefit, you must be an official board retiree, 25 years of university service or age 60 with 15 years of immediately preceding university service. The spouse of an eligible retiree may receive a fifty (50) percent tuition discount and a surviving spouse may receive the employee's full tuition discount provided space is available. The spouses must contact Student Financial Services at sfs@uwyo.edu or (307) 766-6233 in order for this benefit to be applied.

Readmission

Readmission is the process for former University of Wyoming students to again be admitted to the university. Former UW students who have attended another college since their last UW enrollment must have one official transcript from each college sent directly to the UW Admissions Office. Undergraduate students who are returning to UW after an absence of one year or longer should complete an application for admission at least 30 days prior to registration, thereby allowing sufficient time to avoid delays in registration.

Academic Reinstatement: Former students who are on academic suspension at UW must petition for reinstatement through the dean of their college. A petition for reinstatement must be submitted no later than 15 days before the beginning of the semester or summer term in which the student wishes to register. A petition received after this deadline may not be processed until after the regular registration period.

Academic Renewal: An undergraduate student who returns to UW and has not completed a college course at UW, during the previous five years, will have the option of continuing his or her earlier UW cumulative GPA or commencing a new cumulative GPA under the Academic Renewal policy. Interested students must submit the Academic Renewal Application Form (which can be obtained in the Office of the Registrar) to the registrar no later than ten class days before the last day of classes of the semester in which the student returns to UW.

The entire UW transcript will remain intact. A note indicating the policy will precede the new part of the UW transcript if the student opts for academic renewal. At the discretion of the academic department in which the student is enrolled, credit hours for which the student earned the grade of C or better may be applied toward the completion of the degree requirements. The list of any departmentally approved courses must be indicated on the Academic Renewal Application Form when initially submitted to the registrar. No further changes may be requested.

A student's GPA and completed courses that were applied to a baccalaureate degree are not eligible for academic renewal.

Readmission for Military Service Members

Policy

The University of Wyoming acknowledges that students may be temporarily unable to attend classes or be required to suspend their studies in order to perform military service. UW encourages such students to resume their education once a military service obligation has ended and adopts this policy to ensure the timely readmission of such students.

In accordance with federal regulations, 34 C.F.R. 668.18 and the Department of Defense (DOD) Voluntary Partnership Memorandum of Understanding (MOU), the university will promptly readmit service members who seek readmission to a program that was interrupted due to a uniformed service obligation.

Student Responsibility

The student must provide oral or written notice of a uniformed service obligation to the Veterans Service Center as far in advance as possible, unless precluded by military necessity. Such notice does not need to indicate when the student will return to the university.

Tuition and Fees

A returning student must be charged the same tuition and fees in effect during the last academic year the student attended, unless veteran's education benefits or other service member education benefits will pay the amount in excess. For subsequent academic years, the returning student may not be charged tuition and fees in excess of what other students in the program are charged.

Readmission Requirements

A returning student will be permitted to reenroll in the next semester scheduled in the same academic program, unless the student requests a later date of reenrollment or agrees to a different program. A returning student will be readmitted into the same academic program the student was enrolled in prior to the military service or the student requests admission to a different program.

If the university determines that a returning student is not prepared to resume the program or is unable to complete the program, the university must make reasonable efforts to enable the student to resume or complete the program at no additional cost to the student. If such efforts are unsuccessful or place an undue hardship on the university, the university is not required to readmit the student.

In accordance with federal regulations, returning student who receive a dishonorable or bad conduct discharge from the Armed Forces (including the National Guard and Reserves) are not eligible for readmission under this policy. However,

service members who receive dishonorable or bad conduct discharge may remain eligible for readmission even though they will not be entitled to the benefits outlined in this policy.

Residency Student Classification

The following Trustee regulations govern the classification of students at the University of Wyoming as resident or non-resident for tuition purposes, and shall be administered by the Associate Vice President for Enrollment Management and Registrar. (Trustee Regulation, Chapter VIII, Section 3.) See the University Regulations online for the most up-to-date version.

Student Classification for Tuition Assessment

Residing in Wyoming primarily as a student will not support a claim for resident status for tuition purposes. Qualifying for residency for tuition purposes at the University of Wyoming differs from what is normally required to be a "resident" of the State of Wyoming. A person may be considered a "resident" of Wyoming and still be a Non-Resident for tuition purposes at the University of Wyoming.

The governing regulation for residency classification for tuition and fee purposes, as approved by the University of Wyoming Board of Trustees, is UW Regulation 2-200. See the University Regulations online for the most up-to-date version.

Process

The University of Wyoming will determine the initial classification of resident or nonresident status for tuition purposes. Students classified as nonresidents who feel they meet residency requirements may apply to change their status through a form approved by the Office of the Registrar.

If a student classified as an out-of-state resident for tuition purposes wishes to petition their residency status at the University of Wyoming, they will need to conclusively demonstrate they have established a permanent home in Wyoming. Students must submit the Petition for Residency for Tuition Purposes, along with all specified relevant, appropriate, and verifiable documentation to the Office of the Registrar. The deadline for submission is no later than 5 p.m. of the first day of classes for the semester the student wishes to petition, based off of the University's academic calendar. The student bears the burden of providing documentation to show a permanent home has been established in Wyoming based on the required criteria of UW Regulation 8-1(III)(B)(8). See the University Regulations online for the most up-to-date version.

The Registrar or designee will evaluate the student's petition and documentation to determine whether the student has established a permanent home in Wyoming based on the requirements set forth in UW Regulation 8-1(III)(B)(8) or met any other residency criteria in UW Regulation 8-1. See the University Regulations online for the most up-to-date version. If a student subsequently meets the criteria of being a resident for tuition purposes, the student's residency status will be reclassified by the Office of the Registrar and the resident tuition rate will become effective the semester the student submitted the petition. Under no circumstances will any tuition or fee adjustments be retroactively applied to previous semesters.

If a student's petition is denied, the student will be notified in writing of the denial.

Appealing the Registrar's Decision

If a student has a petition denied by the Registrar, the student may appeal the decision by submitting the Denied Residency Petition Appeal form to the Office of the Registrar within ten (10) calendar days of the original decision by the Registrar or designee.

The Residency Classification Committee will receive the student's Denied Residency Petition Appeal form, the written decision of the Registrar, and the student's previously-submitted petition and documentation which were submitted to the Registrar prior to the submission deadline for that semester. The Residency Classification Committee will determine if an error was made by the Registrar and will make a decision to affirm or reverse the classification decision of the Registrar. The decision of the Residency Classification Committee is final and there is no further level of appeal for that semester.

Measles, Mumps, Rubella (MMR)

Immunization Requirement

The University of Wyoming has implemented a policy to protect the University community against measles (rubeola), mumps, and rubella. All new on-campus students must provide proof of immunity to measles, mumps, and rubella prior to registration. Two doses of MMR vaccine (or equivalent) are required. The MMR immunizations dates are to be entered into the Student Health Service Patient Portal (on the Student Health Service's webpage, http://www.uwyo.edu/shser/). Incoming students will use their UW user names and passwords to enter the Patient Portal, and click on Immunizations. Once the immunization dates are entered, students will upload a verified immunization record into the Patient Portal.

The only contraindication to the MMR immunization is a previous severe allergic reaction to the vaccine or vaccine component (neomycin, gelatin). Relative (temporary) contraindications include: pregnancy; persons with immunosuppressive illnesses or treatment; moderate or severe acute illness; and recent receipt of blood products. If you are uncertain as to whether you should receive the immunization, please talk with your health care clinician.

Exemptions may be granted to the requirement in two instances: a medical exemption for a contraindication noted above, and a religious exemption. A medical exemption requires completion of the Medical Exemption Form with a notation of the reason for the exemption and a medical clinician signature. To request a religious exemption, a notarized form must be completed and submitted. Exemption forms can be found on the Student Health Service website (www.uwyo.edu/ shser), and the original form must be submitted. If an outbreak of one of these illnesses occurs on campus, students granted an exemption may be excluded from campus for the duration of the outbreak.

For students unable to verify MMR vaccinations, the vaccine is available at the Student Health Service for a nominal charge. It will be administered prior to registration for any eligible student, without an appointment, during office hours. Do not wait until registration to comply with the MMR immunization requirement, as this will delay the process.

In addition to the MMR requirement, international students are required to undergo tuberculosis screening prior to registration. Based on screening, a tuberculosis (Mantoux) skin test or (IGRA) blood test may be performed, and, if positive, a chest x-ray obtained with consultation with a Student Health Service physician. The student is responsible for the costs incurred for these tests.

Campus Safety

The University of Wyoming Police Department (UWPD) provides comprehensive law enforcement and security services to all components of the University including the academic campus, and other properties owned or controlled by the University. The University Police Officers are commissioned under Wyoming State Statute and have the full range of police authorities granted any peace officer including power to arrest, on property owned by or under the control of the University of Wyoming, including adjacent public streets and sidewalks. University Security Officers work closely with our police officers in constantly patrolling University properties and assisting employees and visitors in accessing University facilities. The UWPD operates 24 hours a day, 365 days a year, and is located at 1426 East Flint, Laramie, Wyoming 82071.

Campus safety is the responsibility of all members of the university community. Faculty/staff, students, and guests are encouraged to report crimes and other concerning behavior or observations promptly. The Dean of Students Office, Student Conduct, The STOP Violence Program, and the Office of Diversity and Employment Practices are available to provide further information.

A full description of campus safety, crime statistics, and educational programs designed to increase safety on campus is available in the 2014 Annual Security and Fire Safety Report of the University of Wyoming. To access the report, go to www.uwyo.edu/uwpd/_ files/2015uwsecurityreport.pdf.

Disability Resources

Disability Studies Minor

The Disability Studies Minor is a diverse interdisciplinary field that investigates the nature, meanings, and consequences of disability from social, cultural, and policy perspectives.

Program Goals:

Disability studies views disability as a political construction, cultural identity, and valued lived experience, not simply as a medical condition. The minor curriculum embeds these overarching goals:

1. Promoting full civic integration of people with disabilities;
2. Positioning disability as an integral aspect of human diversity; and
3. Addressing disability rights, equity, and justice in personal, relational, community, and structural contexts.

All students in the minor are required to complete 18 credit hours consisting of three WIND core courses, one WIND elective, and two additional WIND or external electives related to disability studies. External electives should be selected in consultation with a disability studies faculty advisor.

Disability Support Services

Director: Kate McLaughlin

Dept. 3135, 1000 E. University Ave.

109 Knight Hall

Phone: 307-766-3073

Email: udss@uwyo.edu

Disability Support Services at the University of Wyoming works to highlight and uplift the unique knowledge that students with disabilities bring to the University of Wyoming. We advise, advocate and empower students with disabilities to thrive, graduate and be inspired to break barriers throughout their lives.

Accommodations

With students as integral partners, we use an individualized process to determine reasonable accommodations across all aspects of campus, from the classroom to housing, dining and transportation. This includes our test center where we proctor exam accommodations. We encourage all students to apply and meet with our experienced coordinators to learn about possible accommodations.

Technology

We assist students in learning about how various types of technology can ensure their access and increase their efficiency. From audio versions of text, to software that reads text aloud or creates text from speech, to creating text that can be used by screen readers, we act as a resource for technology to support student success.

Awareness

We work with students to create programming to support the value of disability as a part of campus diversity. We have identify focused groups for students to share their experiences and workshops to support the development of efficient strategies for academics to programs that provide students with the opportunity ton interact with faculty and the greater campus community. We also collaborate on Access UW Day, where we work with campus partners to engage everyone in considering how access improves all of our lives.

Consultation

Finally, we provide consultation support to faculty and campus entities to ensure that all aspects of our campus are working to be accessible and inclusive.

Wyoming Institute for Disabilities (WIND)

Dept. 4298; 1000 E. University Ave.

Laramie, WY 82071

uwwind@uwyo.edu

(307) 766-2761

Toll Free: (888) 989-9463

TTY: (800) 908-7011

The Wyoming Institute for Disabilities (WIND) is an academic unit in the College of Health Sciences and a University Center for Excellence in Developmental Disabilities (UCEDD). WIND works to assist individuals with developmental disabilities, their families, professionals, and University of Wyoming students through education, training, community services, and early intervention.

The Wyoming Institute for Disabilities envisions a Wyoming where all people can participate in everyday community life as they choose.

Mission

The mission of the Wyoming Institute for Disabilities (WIND) is to assist individuals with developmental and other disabilities and their families by promoting and supporting full community inclusion, community membership, independence, productivity and social participation. Over the next five years (2022-2027), WIND will strive to improve outcomes for individuals in the areas of health and wellness, education, early intervention, employment and assistive technology.

About WIND

WIND is one of 67 University Centers for Excellence in Developmental Disabilities (UCEDD) in the United States. Each state now has at least one UCEDD; all UCEDDs are affiliated with universities and receive funding from the Administration for Community Living, U.S. Department of Health and Human Services. UCEDDs share the common

university goals of teaching, research, and service, but have a specific interest in persons with disabilities, particularly developmental disabilities, serving as a bridge between the university and community.

Division of Academic Affairs

- Enrollment Management
- Office of the Registrar
- Transfer Success Center
- Global Engagement Office
- Education Abroad
- English Language Center
- International Students and Scholars
- Undergraduate Education
- Graduate Education

312 Old Main, (307) 766-4286, Fax: (307) 766-2606

Kevin Carman, Provost and Executive Vice President
Tami Benham-Deal, Senior Vice Provost

https://www.uwyo.edu/stateauth/licensure-certification/index.html

Enrollment Management

Admissions Office

Shelley Dodd, Director of Admissions
150 Knight Hall, (307) 766-5160
Web site: www.uwyo.edu/admissions

A new undergraduate student's first official contact with the University of Wyoming is often through the Admissions Office. This unit is responsible for recruiting/admitting undergraduate students to the university. Responsibilities include the development of effective school relations, programs with high schools and community colleges, recruitment of prospective freshmen and undergraduate transfer students, and events for students and families to learn more about opportunities at UW. This office also facilitates the admission process for graduate students. A detailed description of admission to the university and procedures can be found in the admission policies section of this publication.

Office of the Registrar

Lane Buchanan, Registrar
167 Knight Hall, (307) 766-5272
Web site: www.uwyo.edu/registrar

The Office of the Registrar is responsible for overseeing course registration, transcripts, verification of enrollment, adding/dropping/ withdrawing from courses, administering the residency policy for tuition classification purposes, and for maintaining student academic records. This involves responsibility for web registration, as well as preparation and

electronic publication of the *Class Schedules* and *University Catalog*. The office is also responsible for the electronic degree audit program, graduate record processing, and for determining whether or not students have successfully met all degree requirements. Additionally, this office evaluates all transfer credit for undergraduate students to determine transferability as well as UW equivalents. The Office of the Registrar manages Curriculog, an online curriculum management system for the creation of courses. Curriculog works with the online Acalog Catalog to ensure course and program accuracy for students, staff, and faculty.

Transfer Success Center

Wendi Vanlandingham, Director
Marian H. Rochelle Gateway Center, Tomé Student Admissions, Room 116
E-mail: transfer@uwyo.edu
Web site: www.uwyo.edu/transfer/

The Transfer Success Center provides assistance, referrals and advocacy to enhance transfer students opportunities for strong academic performance and smooth transition to the University of Wyoming. The office works closely with Undergraduate Admissions, the Office of the Registrar, Wyoming Community Colleges and out of state institutions to implement effective policies to streamline the transfer process. The office facilitates articulation efforts including programmatic articulation agreements and transfer planning guides. Additionally, the office provides student support services though peer mentors, the Reverse Transfer Program and Transfer Advance.

Global Engagement Office

307-766-3151
Web site: https://www.uwyo.edu/global/index.html

The Global Engagement Office (WyoGlobal) is the home of internationalization at the University of Wyoming. It includes the Vice Provost for Global Engagement, the Center for Global Studies, International Students & Scholars, Education Abroad, and the English Language Center. Whether recruiting and supporting international students, providing exchange and study abroad opportunities, facilitating global partnership development, coordinating immigration for new international hires, or assisting with visiting dignitaries, we support the entire UW campus community in achieving their internationalization goals. Stop by and visit us in the Cheney International Center to learn more about the programs and services we offer to the UW campus community to promote global citizenship, inform visitors, and communicate with our partner institutions abroad.

Education Abroad

(307) 766-3677
E-mail: uwyoabd@uwyo.edu
Web site: www.uwyo.edu/uwyoabroad

The Education Abroad Office connects students from all majors and programs with international study, exchange, service and internship opportunities on six of the seven continents at hundreds of locations around the globe. Students earn UW credit towards major, minor or general education requirements on academic year, semester, summer and faculty-directed short-term programs. The Education Abroad Office is located on the first floor of the Cheney International Center. UW students with a minimum 2.750 GPA are eligible to apply to participate on a wide variety of credit-bearing programs outside of the U.S. The Education Abroad Office staff advises students individually to tailor the program to students' specific needs. Considerations are made for cost, financial aid opportunities, transfer of credit, health and safety, degree completion, country or region desired, and foreign language requirements.

UW students with a minimum 2.750 GPA are eligible to apply to participate on a wide variety of credit-bearing programs outside of the U.S. The Education Abroad Office staff advises students individually to tailor the program to students' specific needs. Considerations are made for cost, financial aid opportunities, transfer of credit, health and safety, degree completion, country or region desired, and foreign language requirements.

In addition to learning about other cultures in depth and perfecting language skills, studying abroad can be a life changing experience. Students return home with altered perspectives by developing flexibility and critical thinking skills. Students gain a greater sense of where they are from, what it is to be a citizen of the world, and what it is to be an individual. Studying abroad can help students clarify life and professional goals which leads to the development of greater direction, focus, and motivation for the remaining years of their university life and beyond.

English Language Center

Joshua Moro, Assistant Director
Cheney International Center, Room 26, (307) 766-3631

Web site: www.uwyo.edu/study-iep-esl

The English Language Center supports the University of Wyoming community of international students and scholars by providing academic English skills classes, graduate teaching assistant training sessions, and credit-bearing English communication courses. Our staff also supports the international community through a host of informal language and cultural services, including weekly conversation hours, campus and regional tours, and custom programs. The ELC is home to Wyoming's preeminent Intensive English Program, designed to boost language proficiency for international students who hope to pursue academic degrees at UW.

International Students and Scholars

Jill Johnson, Associate Director of Admissions
Cheney International Center, Suite 5, (307) 766-5193
Web site: www.uwyo.edu/ISS

International students, numbering over 825 from nearly 90 countries, are a vital part of international education at the University of Wyoming. As such, International Students and Scholars (ISS) works to promote an interchange of ideas and understanding from among all of the countries represented on campus. ISS is responsible for recruitment of international students and provides advising and counseling to all international students/scholars for their academic, social, personal, and immigration concerns. The office also promotes and implements social and cultural activities for international awareness and educational exchange through International Education Week, Friendship Families, American Conversation Club, international coffee hours, and other special programs. Many of these activities are coordinated through the ISS-sponsored International Resource Center in the Cheney International Center, Room 1.

International students and visitors are required to contact International Students and Scholars to confirm their arrival at the University of Wyoming and to consider the office their primary contact for further information and assistance. Students must be enrolled as full-time students each semester as required by the U.S. Citizenship and Immigration Services. The ISS e-mail address is uwglobal@uwyo.edu.

National Student Exchange: The University of Wyoming is a member of the National Student Exchange (NSE) consortium. Through NSE, students are provided an opportunity to attend one of more than 175 U.S. institutions in the NSE consortium. NSE offers a student the chance to live in another part of the United States and to travel and experience college life in different settings for an academic semester or a year under his or her normal UW tuition and fees. Financial aid is often available and academic credit is guaranteed to transfer back to UW.

For more information about the National Student Exchange, please contact International Students and Scholars, Cheney International Center, Suite 5 or call (307) 766-5193. The e-mail address is uwglobal@uwyo.edu.

Undergraduate Education

Steven Barrett, Associate Vice Provost
312 Old Main, (307) 766-2666
Web site: www.uwyo.edu/acadaffairs

Advising, Career, Exploratory Studies Center

Richard Miller, Director
222 Knight Hall, (307) 766-2398
Web site: www.uwyo.edu/aces

The Advising, Career, Exploratory Studies Center (ACES) provides a variety of services to UW students, including advising Exploratory Studies and Bridge students; providing academic support to various populations of probationary, conditionally admitted, and reinstated students; assisting students campus-wide with their career exploration, planning, and job search needs; assisting in coordinating discussions, information dissemination, and event planning between the various professional advisors and advising offices on campus; and coordinating national tests and exams through the University Testing Center in Coe Library, Room 219.

ACES is committed to providing a comprehensive and integrated service that moves a student along a continuum of receiving academic advising, exploring academic and career options, selecting a college major, and finally, implementing his/her degree in the world of work.

Exploratory Studies and students admitted with support, placed on probation, or reinstated to the university are highly encouraged to meet with a ACES career counselor. The purpose of this meeting is to analyze the student's past academic progress and future career goals to develop a strategic plan to maximize his/her academic success and future employment opportunities. ACES also works closely with other campus offices and departments to engage students in available study skill and tutorial resources.

Students interested in engaging in career exploration activities may make an appointment to meet with a career counselor to discuss their career goals and/or confirm their choice of major. Various assessment tools that provide feedback on the match between a student's interests or personality type and the world of work, are available. ACES career specialists provide information pertaining to a broad range of career fields, internship opportunities, specific employer information, general job search strategies, and federal government application processes.

Students are advised on how to use the HANDSHAKE platform on the ACES homepage to find out about and apply for summer, internship, and permanent job opportunities. Each year numerous employer representatives from business, industry, health care, education, and government visit ACES to interview students for these types of opportunities. All information pertaining to these visits is contained in the HANDSHAKE link on the ACES homepage.

The campus wide experiential learning program SOAR is coordinated in the ACES office. Students are advised how to contribute to and utilize their own personal profile to help better prepare them for career or graduate school.

ACES hosts numerous general and specialized job fairs each year for students and alumni. Upcoming job fair dates can be found on the ACES homepage.

The University Testing Center: The University Testing Center coordinates national tests and exams and is housed in the second fllor of COE Library, Room 219. Students may register to take national tests and professional school entrance

exams. Information is available on the University Testing Center web site www.uwyo.edu/UTC or by calling (307) 766-2188.

Learning Resource Network (LeaRN)

April Heaney, PhD, Director
105 Coe Library, (307)766-3448
Web site: www.uwyo.edu/learn

The Learning Resource Network (LeaRN) offers first-year program, academic learning communities, and an umbrella of academic support initiatives for UW's entering and undergraduate students. The program's mission is to provide high-impact academic programs to increase the success and persistence of UW's undergraduates. LeaRN programs support access, academic achievement, and impactful teaching and mentoring within all programs.

First-Year Courses & Learning Communities

Summer and Fall Bridge: Bridge offers two first-year options that help entering and admitted with support students complete general education courses within a learning community. Bridge courses feature small class sizes, support from ACES advisors,
talented instructors, and connections with peer mentors. First-Year Interest Groups: Freshmen Interest Groups (FIGs) are living and learning communities through which students take 3-4 courses together in the Fall semester and live on the same residence
hall floor. Faculty and FIG resident assistants work together to create enrichment opportunities, study and course review sessions, and campus/community engagement through the FIG experience.

First-Year Experience Course: The FYE course (STEP 1102) is an optional one-credit course designed to help freshmen interact with UW campus resources, staff, and faculty; to learn about tools for academic support and wellness; to explore academic and co-curricular
opportunities; and to delve into major and career selection.

Academic Success and Recovery courses: Academic Success courses (STEP 1105) support first-year students with academic probation following Fall semester. The two-credit courses help students learn key skills for college success and evaluate their major, career, and life goals.

Academic Support Initiatives

The STEP Center offers in-person and online tutoring and supplemental instruction for 60+ courses at the 1000 and 2000 level. STEP also offers NetTutor, an online tutoring platform accessible all year to distance and campus students.

Early Alert: Early Alert is program that allows faculty to provide academic feedback on student performance during the 4th week of classes, before mid-term grades are assigned. Early Alert provides a glimpse of students' early-semester progress and multiple avenues for
support in challenging courses.

First Gen Scholars: First Gen Scholars provides multiple resources and engagement opportunities for students whose parents have not earned a four-year degree. Participating students have access to peer and faculty mentoring, workshops and community building
activities, scholarship opportunities, honors society membership--and many more support avenues.

PIE Award: The Promoting Intellectual Engagement (PIE) Award honors instructors who inspire excitement, inquiry, and autonomy in first-year courses. The award is co-sponsored by LeaRN, Ellbogen CTL, Residence Life & Dining, and Advising, Career, and Exploratory Studies.

LeaRN Faculty:

IRENE ENLOW, B.A., The Univeristy of Iowa 2019; M.A., The University of Wyoming 2021; Assistant Lecturer 2021.
ALLISON GERNANT, B.A. Grinnell College 1996; M.A. University of Wyoming 2005; Assistant Lecturer 2016; Fall Bridge First Year Seminar Coordinator & First Year Seminar Coordinator 2019.
SHELBY HUTSON, B.A. Colorado State University Pueblo 2016; M.A. University of Wyoming 2018; Assistant Lecturer 2018.
CATHERINE JOHNSON, B.A. Whittier College 2005; M.A. American University 2009; M.F.A. Portland State University 2017; Assistant Lecturer 2019.
ALYSSA KONESKO, B.A. Saginaw Valley State University 2008; M.Ed. Bowling Green State University 2011; Assistant Lecturer 2015.
SETH SWANNER, B.A. Birmingham-Southern College 2007; M.A. University of Alabama 2011; Ph.D. 2017 Northwestern University; Assistant Lecturer 2019.

Student Educational Opportunity (SEO)

Pilar Flores, Director
330 Knight Hall, (307) 766-6189
Web site: www.uwyo.edu/SEO

Student Educational Opportunity is composed of both on-campus and outreach projects with offices throughout Wyoming. These projects serve students who are first generation; income-eligible; students with cognitive, psychological or physical disabilities; ethnic minority students; and non-traditional students. SEO assists eligible students to plan and prepare for entry into higher education, succeed in the higher education environment, and graduate from college by providing academic success services, and instruction in basic skills, career, and personal development. All projects within SEO seek to increase the public awareness of the needs of ethnic minority, first generation, income-eligible students, and students with disabilities in an educational environment.

On-Campus Projects

McNair Scholars Program: The McNair Scholars Program prepares students to pursue doctoral level study. Services include intensive academic support including tutoring and academic counseling; activities related to successful application to graduate school and pursuit of financial aid opportunities; preparation for the GRE; and faculty mentoring. The capstone of the program is a paid summer research internship program which prepares students for admission to graduate level education. Students who are juniors and seniors, income-eligible and first generation college students, or who are from ethnic minority groups underrepresented in graduate education qualify for program services. The McNair Scholars Project is a federally funded TRIO project. Note: this is a graduate school preparation program; it is not a scholarship program.

Student Success Services: The Student Success Services (SSS) project offers academic support to students who are first generation college students, income-eligible, and/or individuals with disabilities. Student Success Services provides assistance with academics, personal/social choices, financial issues and pursuit of financial aid opportunities, and choice of college major and related career opportunities. The SSS project also provides its students with individual and group tutoring. All services are free to eligible participants and services are intended to help students be successful in college and to stay in college through graduation. SSS is a federally funded TRIO project.

Outreach Projects

Educational Opportunity Center: The Educational Opportunity Center (EOC) assists first generation and income-eligible adults throughout Wyoming to continue their education. Services include assistance with college and financial aid applications, career and college exploration, and GED preparation. Outreach offices are located in Casper, Cheyenne, Ethete, Rock Springs, Powell, Riverton, Gillette, Torrington, and Laramie. EOC is a federally funded TRIO project.

GEAR-UP Wyoming: The Wyoming Statewide GEAR-UP project provides services to 2,000 income-eligible pre-college students throughout the state each year. Student services include career exploration, advising and supporting students in taking a college preparation curriculum, college preparation, ACT preparation, college exploration, application, and planning, and assistance with financial aid processes and procedures. Student services are provided through GEAR-UP coordinators located at each of Wyoming's seven community colleges. The GEAR-UP grant also works with the Wyoming Department of Education in providing teacher training and school improvement initiatives. All GEAR-UP services are aimed at increasing student academic preparation and performance levels suited for post-secondary education, rates of high school graduation, rates of post-secondary education participation and graduation, and GEAR-UP student and family knowledge of post-secondary education options, high school preparation needs, and means of financing.

Upward Bound Math/Science: The Upward Bound Math/Science Program (UBMS) provides services to income-eligible and first generation 9th through 12th grade high school students throughout Wyoming. UBMS is designed to generate the skills and motivation necessary to be successful in high school and to complete a college degree program in a math or science area. Assistance with high school coursework and tasks related to college enrollment are provided throughout the academic year. The UBMS program includes a six-week, residential, summer academic session on the UW campus with an intensified math and science curriculum that includes performing active research under the guidance of university staff and graduate students. UBMS is a federally funded TRIO project.

Upward Bound: The Upward Bound program works with income-eligible, first generation high school students (grades 9-12) and their families to help them gain the skills and motivation necessary to successfully complete high school and to pursue a college degree. The program includes a six-week, residential, summer academic component on the UW campus designed to help students develop academically and socially in a university setting. Tutorial and enrichment services are provided throughout the academic year and participants and their families receive individualized assistance in completing tasks related to successful college enrollment. Outreach offices are located in Albany, Fremont, Laramie, and Natrona counties. Upward Bound is a federally funded TRIO project.

Graduate Education

James C. Ahern, Vice Provost and Dean (307) 766-6478

Web site: www.uwyo.edu/uwgrad

The School of Graduate Education oversees and supports graduate and professional education at the university. In collaboration with Graduate Council, the School of Graduate Education develops, reviews and implements policies and procedures regarding graduate and professional education and helps develop and review major changes to graduate and professional programs. The school also provides funding to programs and students including special initiatives, graduate assistantships, and graduate fellowships. Furthermore, the School of Graduate Education is the administrative home for interdisciplinary and transdisciplinary graduate programs.

FERPA

- General Statement
- Access
- Release of Information
- Public or Directory Information
- Letters of Appraisal/Recommendation
- Challenges to the Record
- Exception to the Policy
- Release of Personally Identifiable Information in a Deceased Student's Education Record
- Rights of Students

Family Educational Rights and Privacy Act (PL-380)

General Statement

The University of Wyoming has the responsibility for effectively supervising any access to and/or release of official data/information related to the education records of its students. Certain items of information about individual students are fundamental to the educational process and must be recorded. This recorded information concerning students must be used only for clearly-defined purposes, must be safeguarded and controlled to avoid violations of personal privacy, and must be appropriately disposed of when the justification for its collection and retention no longer exists.

In this regard, the university is committed to protecting, to the maximum extent possible, the right of privacy of all individuals about whom it holds information, records, and files. Access to, and release of, such records is restricted to the student concerned, to parents of dependent students, to others with the student's written consent, to officials within the university, to a court of competent jurisdiction, and otherwise pursuant to law.

Access

All official information collected and maintained in the university identifiable with an individual student will be made available for inspection and review at the written request of that student subject to certain exceptions.

For purposes of access to records at the University of Wyoming, students enrolled (or formerly enrolled) for academic credit or audit at the university shall have access to official records concerning themselves.

A request for general access to all official records, files, and data maintained by the university must be made in writing to the registrar or to other person(s) as designated by the university officer in charge of the unit maintaining records. A request for access to official data maintained in a particular office may be made to the administrative head of the office.

When students (or former students) appear at a given office and request access to the university record about themselves:

1. The student must provide proper identification verifying that he or she is the person whose record is being accessed.
2. The designated staff person(s) must supervise the review of the contents of the record with the student.
3. Inspection and review shall be permitted within a period not to exceed 45 days from the date of the student's request.
4. Students will be free to make notes concerning the contents, but no material will be removed from the record at the time.

Recordkeeping personnel and members of the faculty and staff with administrative assignment may have access to records and files for internal educational purposes as well as for routine necessary clerical, administrative, and statistical purposes as required by the duties of their jobs. The name and position of the official responsible for the maintenance of each type of education record may be obtained from the registrar of the university.

Any other access allowed by law must be recorded showing the legitimate educational or other purpose and the signature of the person gaining access. The student concerned shall be entitled to review this information.

Release of Information

No personally identifiable information shall be disclosed to any individual (including parents, spouse, or other students) or organization except as follows:

1. Disclosure is authorized in writing by the student.
2. Disclosure is to university officers or employees who need to know so as to accomplish legitimate university purposes related to their functions.
3. Disclosure is to a governmental agency, educational organization, parent of a dependent student, or other entity as described by federal regulations or otherwise required by state or federal law. Custodians of records should obtain interpretations whenever third parties request personally identifiable information.
4. To authorized educational authorities at the local, state, and federal level.
5. When disclosure of any personally identifiable data/information from university records about a student is demanded pursuant to court order or lawfully issued subpoena, the staff member receiving such order shall, if possible, immediately notify the student concerned in writing prior to compliance with such order or subpoena. (NOTE: In fulfillment of its responsibilities to monitor certain state benefit and entitlement programs, the Wyoming state auditor may issue to the university from time to time an administrative subpoena for a listing of currently enrolled full-time students, the students' social security numbers, and information relating to the nature and amount of any educational financial aid being received by such students. Upon being served with such a subpoena, the university will provide the information requested without further notice.)
6. Data/information from university records about students will be released for approved research purposes only if the identity of the student involved is fully protected, or if the research is related to official university business and not publicly disseminated.
7. Information from university records may be released to appropriate persons in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of a student or other persons.

The university officer responsible for the records from which information is released shall maintain with the student's record a listing of disclosures of personally identifiable information, except disclosures in accordance with items 1 and 2 above for which no record need be kept. The listing shall identify the parties who requested or obtained information and the legitimate interests these parties had in making the request.

Public or Directory Information

The following items are considered public data/information and may be disclosed by the university in response to inquiries concerning individual students, whether the inquiries are in person, in writing, or over the telephone:

1. Name;
2. Affirmation of whether currently enrolled;
3. Campus location.

Unless students have officially filed a written request with the university registrar within ten working days after the first day of classes for a semester that disclosure not be made without their written permission, the following items, in addition to those above, are considered public/ directory information; may be included in appropriate university/campus directories and publications; and may be disclosed by designated staff members in response to inquiries concerning individual students, whether the inquiries are in person, in writing, or over the telephone:

1. School, college, department, major, or division;
2. Dates of enrollment;
3. Degrees received;
4. Honors received;
5. Local address and phone number;
6. Home address (permanent);
7. Email address;
8. Participation in officially recognized activities and sports;
9. Weight and height of members of athletic teams;
10. Full-time or part-time enrollment.

Letters of Appraisal/Recommendation

Candid appraisals and evaluations of performance and potential are an essential part of the educational process. Clearly, the providing of such information to prospective employers, to other educational institutions, or to other legitimately concerned outside individuals and agencies is necessary and in the interest of the particular student.

Data/information which was part of university records prior to January 1, 1975 and which was collected and maintained as confidential information will not be disclosed to students. Should a student desire access to a confidential letter of appraisal received prior to January 1, 1975, the student shall be advised to have the writer of that appraisal notify, in writing, the concerned records custodian of the decision as to whether or not the writer is willing to have the appraisal made available for the student's review. Unless a written response is received approving a change of status in the letter, the treatment of the letter as a confidential document shall continue.

Documents of appraisal relating to students and collected by the university or any department or office of the university on or after January 1, 1975, will be maintained confidentially only if a waiver of the right of access has been executed by the student. In the absence of such a waiver, all such documents will be available for the student's inspection and review.

If a student files a written waiver with the department or office concerned, letters of appraisal received pursuant to that waiver will be maintained confidentially. Forms will be available for this purpose.

Challenges to the Record

All students shall have the opportunity to challenge any item in their file which they consider to be inaccurate, misleading, or otherwise inappropriate. A student shall initiate a challenge by submitting a request in writing for the deletion or correction of the particular item. The request shall be made to the custodian of the particular record in question.

If the custodian and the student involved are unable to resolve the matter to the satisfaction of both parties, the written request for deletion or correction shall be submitted by the student to such person as designated by the president of the university who shall serve as the hearing officer. The student shall be given the opportunity for a hearing at which the student may present oral or written justification for the request for deletion or correction. The hearing officer may obtain such other information as he or she deems appropriate for use in the hearing and shall give the student a written decision on the matter within 30 days from the conclusion of the hearing. If the decision of the hearing officer is to deny the deletion or correction of an item in the student's file, the student shall be entitled to submit a written statement presenting the student's position with regard to the item to the hearing officer. Both the written decision of the hearing officer and the statement submitted by the student shall be inserted in the student's file. The decision of the hearing officer shall be final.

Grades may be challenged under this procedure only on the basis of the accuracy of their transcription or posting.

Exception to the Policy

It is the position of the university that certain data/information maintained in various offices of the university is not subject to the provisions of this policy with regard to inspection, review, challenge, correction, or deletion. Exceptions to "education records" include: alumni records, employment records, law enforcement records, medical records, sole possession records, and university disciplinary records.

1. Statements submitted by parent(s)/guardian or spouse in support of financial aid or residency determinations are considered to be confidential between those persons and the university and are not subject to the provisions of this policy except with the written consent of the persons involved. Such documents are not regarded as part of the student's official record.
2. University employment records of students are not included in this policy, except as provided under the Wyoming Public Records Act.

3. With regard to general health data, only that data/information which is used by the university in making a decision regarding the student's status is subject to review by the student under this policy. Written psychiatric or psychological case notes which form the basis for diagnoses, recommendations, or treatment plans remain privileged information not accessible to the student. Such case notes are not considered to be part of official university records. To ensure the availability of correct and helpful interpretations of any psychological test scores, notes, or other evaluative or medical materials, the contents of these files for an individual student may be reviewed by that student only in consultation with a professional staff member of the specific department involved. Records that are subject to FERPA are not subject to the HIPAA Privacy Rule.
4. Records relating to a continuing or active criminal investigation by the University of Wyoming Police Department, or records of said office not relating to the student's status with the university, are not subject to this policy.
5. No student is entitled to see information or records that pertain to another student, to parents, or to other third parties. A student is entitled to review only that portion of an official record or file that pertains to him or her.
6. The personal files, or sole possession records, of members of the faculty and staff which concern students, including private correspondence, and notes which refer to students, are not regarded as official records of the university. This includes notes intended for the personal use of the faculty and never intended to be official records of the university. In order to be sole possession records, they cannot be shared with anyone else.

Release of Personally Identifiable Information in a Deceased Student's Education Record

The Family Educational Rights and Privacy Act (FERPA)'s protection of personally identifiable information in a student's education record ends at the time of a student's death. The University of Wyoming's policy on the release of a deceased student's records is as follows:

Within the first year following the death of a student, the University will release the educational records of the decedent to the following individuals:

- If the student submitted a signed Authorization to Release Educational Records form which designated the person(s) eligible to request and/or receive educational records, the information will be released to the individual on that form.
- The decedent's next of kin. The request must be accompanied by official documentation.
- The individual designated as the personal representative of the decedent's estate. The request must be accompanied by official documentation.
- Members of the family or other persons with the written approval from the decedent's next of kin or the personal representative of the decedent's estate. Absent written approval from the family or representative of the estate, only directory information will be disclosed.
- In response to a subpoena or court order.
- To any other individual, if determined by the University to be in the best interest of the decedent or the University.

After one year has elapsed following the death of an individual student, the University may release the educational records of the decedent at the University's discretion.

Rights of Students

Students are hereby notified that controlling provisions of federal law are contained in Sec. 438, Pub. L.90-247, Title IV, as amended, 88 Stat. 571-574 (U.S.C. 1232g) and regulations set forth in the code of Federal Regulations, 34

C.F.R. sections 99.1 to 99.67 (1981). Complaints of institutional noncompliance may be made to the Department of Education as provided in the regulations.

Grading System

- Grade Points
- Semester (or Term) Grade Point Average
- Cumulative Grade Point Average
- Repeating a Course
- Incompletes (I)
- General Information on S/U Grading
- End of Semester Grade Reports
- Grade Appeal
- Academic Transcripts
- Honor Roll
- Academic Probation and Suspension

Students are evaluated according to the following grading system:

Grade	Pts.	Definition
A	4.000	Exceptional
B	3.000	Very good
C	2.000	Fair
D	1.000	Poor
F	0.000	Failure (may be assigned as a grade for failure to attend or to indicate failure to formally withdraw)
I		Incomplete (temporary mark pending coursework completion as agreed in a signed document). See section on incompletes below for details.
W		Withdrawal (from the individual course or all courses), only if the student follows the official withdrawal procedure. If a student enrolls in a course and then abandons it (stops attending) without following the official withdrawal procedure, a grade of F will be assigned.
S		Satisfactory (equivalent to a C or better [B or better in courses numbered 5000 or above]; see general information on S/U grading below)
U		Unsatisfactory (see general information on S/U grading below)
UK		Unable to compute grades (for midterm grades only)

Grade Points

Each letter-graded course carries a grade point value computed as: the total credit hours earned in the course multiplied by the point value of the letter grade earned. For example: a student earning an A (point value of 4) in a 3 credit-hour course would earn 12 grade points for the course.

Semester (or Term) Grade Point Average

The semester grade point average (GPA) is the sum of all grade points earned in a semester or term divided by all credit hours attempted for letter grade. Credit hours in courses in which marks of I, W, S, or U were assigned, as well as developmental courses, are excluded.

Cumulative Grade Point Average

The average of all grade points earned by a student below is termed the cumulative grade point average. It is used for determining activity eligibility, honors, probation, suspension, graduation, and for all comparisons or purposes requiring measurement of academic standing.

The cumulative grade point average is defined as the sum of all grade points earned in University of Wyoming residence, correspondence, or Distance Education, divided by all credit hours attempted for letter grade, with the following exceptions:

1. The credit hours shall not be counted in courses in which marks of W, S, or U were assigned, or in which marks of I (for incomplete) are still in effect.
2. For repeated courses:
    a. First repeat: only the second credit and grade is used to determine earned hours and to calculate the cumulative grade point average.
    b. If repeated more than once, only the last credit and grade earned is used to determine earned hours and to calculate the cumulative grade point average.
    c. A student is limited to a maximum of three (3) attempts, including withdrawals, in any course at the University of Wyoming.
    d. If a mark of W, S, or U is assigned in a repeated course, the previous grade assigned will stand except when an S or U is earned repeating a previous S or U.
    e. Courses applied towards one completed degree may be repeated as part of a second degree; however, the grade and grade point average in the original degree will not be changed.
3. Transfer grades are not counted in the UW grade point average. If a course taken at UW is repeated at another institution, the credits and grade earned at UW will be deleted from computation of the UW cumulative grade point average if credit for the repeated course is transferred to UW.
4. For graduate students, courses numbered below 4000 are not added in to the semester and cumulative totals, nor computed into the GPA.

Repeating a Course

Students may repeat course work; however, credit earned in any given course (or equivalent course) is applicable toward a degree requirement only once. All grade entries remain on the student's record, but only the last grade earned will be calculated in the UW cumulative grade point average. Refer to the Cumulative Grade Point Average section of this catalog for further information. Variable-credit courses are not considered as repeats unless the department head provides written certification that the course content was, in fact, repeated. Courses repeated will remain as entries on

the academic transcript. Courses applied towards one completed degree may be repeated as part of a second degree; however, the grade and grade point average in the original degree will not be changed. A student is limited to a maximum of three (3) attempts in any course at the University of Wyoming. An "attempt" includes any instance in which the student earns a grade for the course or withdraws from the course. The three-attempt limit does not apply to courses identified in the University Catalog as being appropriate for students to take multiple times. A student can petition for exceptions to this limitation through established university procedures (UW Regulation 2-204). See the University Regulations online for the most up-to-date version.

Incompletes (I)

A grade of "I" (incomplete) is a temporary grade assigned to students who, due to unforeseen circumstances, were unable to complete all work required for a course. Information regarding authorization and processing of incomplete grades may be obtained from the Office of the Registrar. An incomplete should not be assigned in lieu of a failing grade (e.g. if student never attended). Incomplete grades are not a student privilege. They can be issued only at the discretion of the assigned instructor. (UW Regulation 6-720) See the University Regulations online for the most up-to-date version.

Time allowed for completing course requirements will normally not exceed 120 calendar days beyond the end of the semester in which the I was given. The dean of a college may designate certain research courses where the 120-day limit may be extended by the instructor; however, the completion date even in these courses should not be later than the time of graduation for the student unless the student is reserving the particular course for graduate credit.

If the final grade for the course is not received in the Office of the Registrar by the date indicated on the authorization, the I will revert to an F. Should graduation occur in the interim, the I will stand permanently. The student's GPA at graduation with all associated honors will stand as computed. (UW Regulation 6-720) See the University Regulations online for the most up-to-date version.

General Information on S/U Grading

The grade of S (satisfactory) is interpreted to include grades A through C and the grade of U (unsatisfactory) to include grades C-through F on the conventional grade scale for courses numbered less than 5000 (for courses 5000 or above, the grade of S is interpreted to included grades A and B). Credit hours of S/U courses are counted as hours attempted toward graduation. However, neither the S nor U grade carries grade points and neither will be included in the calculation of the cumulative grade point average.

Students may not take a course for S/U credit to satisfy University Studies Program requirements, unless the course is offered for S/U only; (e.g., POLS 1000, or the equivalent history or economics courses, may not be taken for S/U).

If a mark of S or U is assigned in a repeated course, the previous grade assigned will stand except when an S or U is earned repeating a previous S or U.

Students must signify at the time of registration or schedule modification whether they are taking any course for S/U grades.

The faculties of the various colleges and interdisciplinary programs shall determine the number of credit hours of S that may be used to satisfy degree requirements in their programs. They may also place restrictions upon the use of S credits to satisfy college or major requirements. In addition, they may designate particular courses in their colleges as courses to be offered for S/U only.

A student who changes majors within a college or who transfers to a different college may petition for the acceptance of S credits previously earned if such credits are in conflict with faculty-established regulations for the new major or college.

Mid-Term Grades

Mid-term grades for all courses numbered below 5000 are to be submitted by instructors through WyoRecords the week following midsemester. Grades which can be assigned by faculty are:

Grade	Definition
D	Poor
F	Failure (may also be assigned as a grade for failure to attend or to indicate failure to formally withdraw)
S	Satisfactory (equivalent to a C or better) in cases where the class is offered for S/U or the student has elected the S/U option
U	Unsatisfactory (equivalent to a D or F) in cases where the class is offered for S/U or the student had elected the S/U option
UK	Unknown; unable to compute grade

The UK grade may be assigned if, due to lack of performance assessments such as exams, papers, homework, etc., a faculty member is unable to make a determination of a midterm grade.

Please note that the midsemester grade received in any particular class reflects the assessment of student performance during the first portion of the semester only.

Mid-term grades are available through WyoRecords.

End of Semester Grade Reports

Final grades are available through WyoRecords as soon as possible (usually five working days) after the close of the semester or term.

At the end of the semester, final grades are available to students through WyoRecords within one day after being submitted by faculty. Final grades are due from faculty by noon (12:00 p.m.) of the fourth business day after the end of finals week (or after the last day of the summer semester).

Definitions

1. Cumulative semester hours attempted shall be the total of all credit hours attempted through the University of Wyoming, except for credit hours attempted in repeating a course, those in which marks of W were assigned, and those accepted in transfer from other institutions.
2. The cumulative grade point average is defined as the sum of all grade points earned through the University of Wyoming divided by the sum of all credit hours attempted through the university, except for credit hours in which marks of W, S, U, or I are assigned or those of an initial course which has been repeated. When a course has been repeated, only the last grade points and credit hours assigned for repeats of the course shall be entered in the computation of the cumulative grade point average.

Grade Appeal

A recorded grade may be changed through established appeal processes within individual colleges. Contact your department for further information about appealing a grade.

Academic Transcripts

Official transcripts of individual academic records at UW are sent from the Office of the Registrar upon written authorization signed by the individual. Individuals may also authorize the release of their academic transcripts through WyoRecords. All financial obligations to the university must be cleared before a transcript may be released or viewed on WyoRecords.

Transcripts are produced on a first-come, first-served basis and one to two business days must be allowed. Usually, 10-15 days are needed at the close of a semester to record semester grades. Same-day transcript service is available for a $10 fee (limit of 2 transcripts).

Partial transcripts are not issued. Each transcript includes the complete academic record at the University of Wyoming and the number of credits from other institutions accepted by UW.

Official transcripts of credit earned at other institutions which have been presented for admission or evaluation of credit become the property of the University of Wyoming and are not reissued or copied for distribution. This includes high school records and any other type of supporting documents. Transcripts of work completed at other institutions should be obtained directly from the issuing institution.

Applicability of transfer credit toward any degree is dependent on the curriculum pursued by the student.

In preparing transcripts for graduate students or second bachelor's degree candidates whose undergraduate work was taken elsewhere, the University of Wyoming includes on its transcripts no detailed reference to that undergraduate work, mention being limited to designation of the degree and date received and the name of the institution granting the degree.

Honor Roll

Undergraduate and law students who achieve high scholastic grades are honored by being placed on the President's Honor Roll, the academic Dean's Honor Roll, or the Provost's Honor Roll.

The requirements to be met to attain these honors are:

For President's or Dean's Honor Roll:

1. Undergraduate students must complete a minimum of 12 UW semester hours on a basis of A-F. Exception: if a student is student teaching, the student must be enrolled in a minimum of 12 UW semester hours, at least 7 of which must be graded on the basis of A-F with no semester grade of I. Courses taken for audit do not count for honor roll purposes.
2. A GPA of 4.000 for the President's Honor Roll.
3. A GPA of 3.250 or better for the academic Dean's Freshman Honor Roll.
4. A GPA of 3.400 or better for the academic Dean's Honor Roll for undergraduates above freshman standing.
5. In the College of Law, students are eligible for the academic Dean's Honor Roll when enrolled in a minimum of 13 UW semester hours of law courses. In the College of Law, a grade point average of 3.250 or better is required for first year students and a GPA of 3.400 or better is required for second and third-year students for the academic Dean's Honor Roll.
6. Students having consortium agreements with other institutions are not considered to be full-time for honor roll purposes.

For the Provost's List:

1. Undergraduate students must complete a minimum of 6 UW semester hours, but fewer than 12 UW semester hours, of which at least 6 UW semester hours must be graded on the basis of A-F with no semester grade of I. Courses taken for audit do not count for honor roll purposes.
2. A GPA of 3.500 or better.

Graduate Students

Graduate Students are not eligible for the President's Honor Roll, the academic Dean's Honor Roll, or the Provost's List.

Academic Probation and Suspension

Undergraduate Students

Academic Status

- In order to graduate, every student is expected to maintain satisfactory academic progress, which is based on scholastic performance. Current academic status will be indicated on internal documents and grade reports as:
- good standing
- academic probation
- academic suspension: normally not eligible to petition for reinstatement until one full semester, exclusive of summer term, has elapsed. The dean of the college in which a suspended person wishes to continue may waive the four-month delay if the dean is assured that the person has made suitable progress toward resolving the academic deficiencies.

Undergraduate Academic Probation

1. Academic probation shall constitute notice that a student is not progressing satisfactorily toward the bachelor's degree or Pharm.D.
2. A student enrolled at the University shall be placed on academic probation at the end of the semester or summer term when his/ her cumulative GPA at UW falls below a 2.000.
3. A student placed on academic probation will be so notified by email. This information is also available on WyoRecords.
4. A student shall be removed from academic probation at the end of the semester or summer term in which his/her cumulative GPA is 2.000 or above.
5. Students who fail to remove themselves from probation or earn a semester grade point average below 2.000 in the next semester or summer term attempted at the University of Wyoming will be placed on academic suspension for not maintaining the criteria for satisfactory academic progress. For probation purposes, completing a semester or summer term shall mean that the student has earned a grade in at least one course.

Undergraduate Academic Suspension

1. Academic suspension is the dismissal of a student from the University due to the student not making satisfactory academic progress toward the bachelor's degree.
2. A student who is suspended for unsatisfactory academic performance should not be permitted to petition for reinstatement until one full semester, exclusive of summer term, has elapsed. Students may petition once per semester for reinstatement, and, if denied by any college or the Center for Advising and Career Services, cannot petition for reinstatement until the next fall or spring semester, unless there are documented extenuating circumstances justifying immediate reinstatement.

3. A suspended student may not enroll for any University of Wyoming credit classes (including on-campus, online, and distance).
4. Credit earned at another accredited college or university while a student is suspended from the University may be accepted under the usual regulations governing the transfer of credit after the student has been reinstated.
5. A student placed on academic suspension will be so notified by letter.

Undergraduate Academic Reinstatement

1. A college may have an academic reinstatement policy that is more restrictive than the general university policy.
2. Academic reinstatement is the readmission of a suspended student to the University. The student is eligible to be considered for readmission. The reinstated student will be on academic probation during his/her first semester or summer term of reinstatement after which he/she may be removed from this probation.
3. A petition for reinstatement must be submitted no later than 15 days before the beginning of the semester or summer term in which the student wishes to register. A petition received after this deadline may not be processed until after the regular registration period.
4. The decision on a petition for reinstatement will be made by the dean (or designee) of the college in which the student wishes to enroll. Undeclared students should contact the Director of the Center for Advising and Career Services. A student who has been reinstated must remain in the college in which he/she has been reinstated for that semester.
5. Students placed on academic suspension are eligible for a maximum of three reinstatements. Any student placed on academic suspension for the fourth time is not eligible for reinstatement for a minimum of five years from the end of the last term of attendance.
6. Students who are suspended as a result of spring semester grades will have the suspension invoked at the beginning of the summer term.

Exceptions

Upon the request of a person placed on academic suspension or denied reinstatement, the vice president for academic affairs may review the circumstances and reverse the decision of the dean if the vice president for academic affairs deems it necessary to prevent a gross injustice.

Academic Renewal

An undergraduate student who returns to the University and who has not completed or withdrawn from a college course at UW during the previous five years will have the option of continuing his or her earlier UW cumulative GPA or commencing a new cumulative GPA under the Academic Renewal policy. The student must submit the Academic Renewal Application Form (which may be obtained from the Office of the Registrar) to the registrar no later than ten class days before the last day of classes of the semester in which the student returns to UW.

The entire UW transcript will remain intact. A note indicating the policy will precede the new part of the UW transcript if the student opts for academic renewal. At the discretion of the academic department in which the student is enrolled, credit hours for which the student earned the grade of C or better may be applied toward the completion of the degree requirements. The list of any departmentally-approved courses must be indicated on the Academic Renewal Application Form when initially submitted to the registrar. No further changes may be requested.

A student's GPA and completed courses that were applied to a baccalaureate degree are not eligible for academic renewal.

Graduate students are not eligible for academic renewal.

Graduate Students

A graduate student enrolled at the university will be placed on academic probation at the end of a semester or summer session when his or her graduate cumulative UW grade point average in 4000-level or higher courses is below 3.000. Students who fail to bring their graduate GPA to 3.000 and remove themselves from probation after one semester or summer session will be suspended from the university. A suspended student may petition his/her academic program for reinstatement to the same degree program. A reinstated student will be on probation and may be subject to other performance criteria as specified by the dean of the affected department.

The above GPA requirement is considered to be a minimum requirement. Individual departments or programs may require higher standards than these minimum performance standards and establish department- or program-specific criteria for satisfactory academic progress. A graduate student may be dismissed from a degree program for lack of satisfactory academic progress, as determined by the department or program offering the degree.

The above regulations governing academic probation, suspension, and reinstatement do not apply to students enrolled in the College of Law.

Graduate Student Regulations and Policies

- Admission Regulations
- Coursework Applied to Graduate Degree
- Guidelines for Satisfactory Academic Progress
- Steps Required for Degree Completion
- Examinations
- Final Steps in Completion of Degree Requirements
- Overview of Graduate Degrees Awarded
- Miscellaneous Regulations
- Armed Services
- International Students

All regulations are subject to change without notice by action of various administrative officers, the University of Wyoming Board of Trustees, and the appropriate departments and divisions. Published regulations are the minimum requirements for any advanced degree.

School of Graduate Education

James Ahern, Vice Provost and Dean

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Founded in 2022, the School of Graduate Education elevates the visibility of the University of Wyoming's advanced degree education mission and supports its broad portfolio of graduate programs and the university's research mission. The School of Graduate Education continues the essential functions performed by the previous Office of Graduate Education (2018-2022), including strategic leadership for and oversight of all UW graduate programs, allocation of graduate teaching assistantship funding, implementation and enforcement of graduate education policies and procedures, graduate student marketing and recruitment, and advocacy and support for graduate students. The school builds upon these by raising the visibility and presence of graduate education to both internal and external stakeholders and serves as the conduit through which significant improvements to UW's graduate education functioning will be made, including the re-establishment of the Graduate Faculty, the creation of a Graduate Student Council, and a clarification and elevation of the role of UW's Graduate Council. Given the broad impact of the School of Graduate Education, the school's Dean also serves as a Vice Provost in the Division of Academic Affairs. The School of Graduate Education bylaws are available here: https://www.uwyo.edu/acadaffairs/bylaws/.

Admission Regulations

Please see Graduate Admissions section under Admission to the University

Coursework Applied to Graduate Degree

Rule of 12

The Rule of 12 regulates the number of credits a student may use as non-degree and transfer credits. With committee and college approval, a student may submit up to a total of 12 pre-admission hours that may be an accumulation of non-degree, reserved, and/or transfer hours. The maximum number of hours allowed from each category is as follows: 12 non-degree graduate, 6 reserved and 9 transfer hours. A student may elect to use a combination of the three different areas to total the 12 credits allowed (e.g. 6 non-degree hours, 3 reserved hours, and 3 transfer hours). Please review the individual sections of the catalog that cover the specific policies for non- degree hours, reserving coursework for graduate credit, and transfer credit.

Transfer Credit Available to Graduate Students

To transfer graduate hours earned at another institution to a graduate program at UW, the student must provide an official transcript from the institution where the credits were earned. This official transcript must be part of the student's permanent file. The student must also provide evidence that the course was approved for graduate credit at the institution where the course was taken.

No more than 9 semester hours that have been transferred from another accredited institution may be used for meeting the credit hour requirements of a master's student's program. Transferred hours must carry a B (3.000) or better (A=4.000) grade and will not reduce the residence requirements. Transfer hours taken for satisfactory/unsatisfactory (or pass/ fail) grades are not acceptable on a program of study.

Coursework hours approved for transfer from another college or university are considered as part of the 12-credit- hour pre-admission course limitation for master's students.

Hours transferred from other institutions for a doctoral program must carry a letter grade of B (3.000) or better (A=4.000), except for thesis or dissertation hours which may be transferred as Satisfactory (S/U grading). Ed.D. and Ph.D. candidates may transfer up to 48 credit hours of such coursework, only four of which can be thesis or dissertation

research. Transfer hours for doctoral students are not considered as part of the 12- hour pre-admission course limitation.

Non-Degree Hours

A student may request that up to 12 hours of graduate-level coursework, taken during the student's graduate, non-degree status, be used toward a program of study should the student choose to pursue a graduate degree at the University of Wyoming. This would be subject to the approval of the student's graduate committee and the college dean. These hours can be affected by other pre-admission (reserved and transfer) hours.

Once a student obtains 12 non-degree hours, they must gain admission to a graduate degree program to ensure that subsequent coursework beyond the 12 non-degree hours can apply to a graduate degree.

No student can remain in graduate status beyond 18 hours of graduate course work without admission to a degree program. Students who wish to take more than 18 hours of coursework but do not wish to pursue a graduate degree should consider declaring a second baccalaureate degree. If a non-degree graduate student anticipates attaining a graduate degree at any time in the future, they should declare and be accepted into a graduate program. Not more than 12 non-degree hours will be accepted toward a graduate degree. It is not in the interest of the student to take more than 12 hours as a non-degree student. Declaring a graduate program provides the student with the advising and support needed to make reasonable progress toward a degree.

Reserving Coursework for Graduate Credit

Approved graduate level courses taken prior to completing the baccalaureate degree, but not part of that degree's requirements, may be applied to the master's or doctoral program with the approval of the student's committee. Approval for reserving the coursework is rendered jointly by the adviser and college dean, and applies only to courses previously reserved for graduate credit.

If a course is dual listed at the 4000/5000 level, the course must be taken at the 5000 level to receive graduate credit. Each 4000-level or 5000-level course must be reserved for graduate credit by completing the Request to Reserve Coursework for Graduate Credit form. The form must be completed and submitted to the Office of the Registrar by midterm of the semester in which the coursework is taken.

These courses will appear on the undergraduate transcript with a notation that they have been reserved for graduate credit.

Students will only be allowed to transfer six hours of coursework that has been reserved for graduate credit into their degree program.

Correspondence Courses and Credit by Examination

Correspondence courses and credit by examination courses are not acceptable on graduate programs of study.

Second Baccalaureate Degrees

A student working toward a second baccalaureate degree is subject to all regulations concerning undergraduates and is not considered a graduate student. Students requesting to reserve coursework for graduate credit must be able to complete their undergraduate degree within 12 months of the request. Only six hours of undergraduate coursework reserved for graduate credit will be allowed for consideration in a graduate degree program.

Second Graduate Degrees

All requirements for a second degree are considered separate from the first degree. Hours from the first master's degree may not be used for completing the hours toward the second master's. Hours from the first doctoral degree may not be used for completing the hours toward the second doctorate. Hours from an earned doctorate may not be used in a subsequent master's degree. (Some credits may be shared between approved joint degree programs.)

Grade Point Average

A UW cumulative grade point average of at least 3.000 is required for graduation and good standing. Hours for which a C was earned may be balanced by a corresponding number of hours for which an A was earned. Departments and divisions have the option of indicating subject areas in which they will not accept grades of C for credit regardless of accumulated grade point average. No credit will be allowed toward an advanced degree for coursework in which a grade lower than C is earned.

A graduate student enrolled at the university shall be placed on academic probation at the end of a semester or summer session when his or her graduate cumulative UW grade point average in 4000-level or higher courses is below 3.000 or if they have earned Unsatisfactory (U) grades or a grade in six or more graduate credit hours. Students will be suspended if they earn less than a cumulative 2.00 average at any time, or if they are on probation and earn less than a 3.00 in the next enrollment period and are full-time students, or if they earn less than a 3.00 in the next 12 attempted credits and are part-time, or if they have earned Unsatisfactory (U) grades or grade in six or more credit hours while on probation. No student in their semester of probation will be employed as a graduate assistant on the UW campus.

The 3.000 cumulative GPA requirement is considered to be a minimum requirement, unless all UW credits have been taken S/U. Individual departments or programs may establish criteria higher than these minimum performance standards and establish department- or program-specific criteria for satisfactory academic progress. A graduate student may be dismissed from a degree program for lack of satisfactory academic progress, as determined by the department or program offering the degree. Students dismissed for lack of progress can appeal, but will necessarily direct their appeal to the department within which the degree resides. Dismissals of graduate students from degree programs are at the discretion of the department.

Please see the Guidelines for Satisfactory Academic Progress section, below.

All courses taken at the graduate level included in the GPA as listed on the academic record if the courses are numbered 4000 or above, and are used in determining probation/suspension.

Satisfactory/Unsatisfactory Grades

All courses taken to fulfill the requirements for the degree program must be taken for letter grade (A through F) except those courses given for S/U only.

The grade of S (satisfactory) is interpreted to include grades A through C and the grade of U (unsatisfactory) to include grades C- through F on the conventional grade scale for courses numbered less than 5000 (for courses 5000 or above, the grade of S is interpreted to include grades A and B). Credit hours of S/U courses are counted as hours attempted toward graduation. However, neither the S nor U grade carries grade points nor will be included in the calculation of the cumulative grade point average.

The faculties of the various colleges shall determine the number of credit hours of S that may be used to satisfy degree requirements in their programs. They may also place restrictions upon the use of S credits to satisfy college or major requirements. In addition, they may designate particular courses in their colleges as courses to be offered for S/U only.

The grade of S in thesis and dissertation research is a judgment that the student is adequately engaged in the required research objective. It in no way implies that the final thesis or the thesis defense will be judged of sufficient quality for the award of the appropriate degree.

Incomplete Grades

The incomplete grade (I) is a temporary grade used under circumstances where awarding a grade would be unjust or not reflective of the student's actual performance in a course. The assignment of an I is intended for use in unexpected circumstances; the Incomplete cannot be assigned simply to allow additional time to complete a course in the absence of unusual or unanticipated events. Graduate students who are unable to complete a course in normal class time period, and are not dealing with unusual or unexpected circumstances, should not receive an Incomplete grade. In the event of unusual circumstances, when an Incomplete grade is a reasonable alternative, the time allowed for completing course requirements will normally not exceed 120 calendar days beyond the end of the semester in which the I was given. The dean of a college may designate certain research courses where the 120- day limit may be extended by the instructor.

The I will revert to an F if the final grade for the course is not received in the Office of the Registrar by the date indicated on the authorization. Students receiving an incomplete in any course(s) listed in their program of study must have the incomplete removed by the end of the semester in which they turn in their intent to graduate. If the incomplete is not removed, the student will not graduate that semester.

Academic Dishonesty

Academic dishonesty and scholarly misconduct will not be tolerated. Academic dishonesty is an act attempted or performed that misrepresents one's involvement in an academic task in any way, or permits another student to misrepresent the latter's involvement in an academic task by assisting in the misrepresentation (www.uwyo.edu/regs-policies/index.html).

If academic dishonesty has been established, the offending student shall receive a failing grade for the course in question. If two such acts have been recorded at different times or in different courses, the student shall be suspended from the university in accordance with UW Regulations. These actions shall not preclude the imposition of other sanctions by university officers including the loss of benefits from programs, scholarships, and other opportunities normally afforded students.

Degree Revocation

The University of Wyoming is a state higher education institution whose Trustees are legislatively empowered to confer degrees on students who have earned them, upon the recommendation of the faculty. The Board of Trustees recognizes that there may be instances where a degree is awarded to an individual who, upon review, has not properly completed all requirements for the degree. In such instances, the Board of Trustees may revoke the degree. UW Regulation 2-120 establishes the process for such revocation.

Grounds for revoking a degree include convincing evidence that the degree recipient failed to complete the requirements for the degree that were in effect at the time of the degree conferral. Included in this category is evidence that the candidate engaged in academic misconduct serious enough to negate bona fide completion of one or more substantive degree requirements. Additional information can be found at (www.uwyo.edu/regs-policies/index.html).

Course Numbering for Graduate Credit

Courses offered for graduate credit are distinguished by number as follows:

4000-4999 are primarily for junior and senior students, but also may be used as part of some graduate programs of study. Not more than 12 hours of 4000-level coursework will be permitted on the graduate program of study.

5000-5999 are primarily for graduate students.

Courses numbered 5000 or above may be taken by undergraduate students having the necessary prerequisites. If a course is filled, graduate students will have preference and undergraduates may be asked to relinquish their place in the course. Graduate students may enroll in courses numbered 1000-3999 to remove undergraduate deficiencies, but only those numbered 4000 and above will be computed into the graduate GPA and are allowed for graduate credit.

Dual Listed Courses

If a course is dual listed at the 4000/5000 level, the course must be taken at the 5000 level to receive graduate credit regardless of whether the course is in the student's primary program area.

The syllabus for a dual listed course must specifically differentiate expectations, outcomes and assessment between the 4000 and 5000-level components, clearly describing the additional effort needed for graduate level credit. Students enrolled in the 5000-level course will be expected to demonstrate greater sophistication in content expertise, inquiry, creativity, communication, problem solving, analytic reasoning and/or collaborative learning compared with those enrolled in the 4000 course. Examples include (but are not limited to) intellectual skills, discipline-specific competencies and challenging learning outcomes. Students enrolled in the 5000-level course may be required to lead discussion sessions, submit a portfolio, write a paper or may be involved in a service learning component, internship or collaborative assignment designed to provide experience in applying course information in different contexts.

Courses Not Applicable Toward Advanced Degrees

Only courses at the 4000 or 5000 level may be counted for graduate credit. However, some 4000- and 5000-level courses may not be applicable toward undergraduate or graduate degrees. These courses are listed below:

**** 5959. Enrichment Studies in ____ . (Any course numbered 5959 is not applicable toward UW degrees.)

EDUC 4740. Field Studies in ____ . (Any course in the College of Education numbered 4740 is not applicable toward UW degrees.)

KIN/HLED 4074. Field Studies in _____ .

**** 5920 Continuous Registration: On Campus

**** 5940 Continuous Registration: Off Campus

Distance Education Courses

Distance Education to carry graduate credit, must satisfy achievement criteria acceptable to Academic Affairs and must be taken under the auspices of UW. Distance Education delivery of existing graduate on-campus graduate courses (hybrid courses) are acceptable examples.

In-Residence Coursework (Residency)

In-residence coursework includes courses and/or research work on the UW Laramie or Casper campuses (including distance/online), at an approved UW off-campus course site, and/or research work done for credit in the field under the direction of a UW faculty member.

The minimum number of semester credit hours that must be earned on a UW campus or at an approved UW setting for a particular degree program shall be determined by the individual colleges. In no case shall these minimum numbers of credit hours be less than 21 hours beyond the bachelor's degree for the master's degree, 21 hours beyond the master's degree for the doctoral degree, or 24 hours beyond the bachelor's degree for the doctoral degree.

In computing the in-residence requirements for the Plan A thesis and doctoral degrees, credit earned working on the thesis or dissertation shall apply.

Repetition of Courses

No more than two courses (total of six credit hours) available for graduate credit may be repeated by students at the graduate level. This regulation does not apply to those courses carrying variable credit (e.g., research or independent study). Variable credit courses are considered repeated only when so certified in writing by the instructor and the registrar.

Continuous Enrollment

Once admitted, all degree seeking graduate students must maintain continuous enrollment. Unless a formal leave of absence is approved, all students must maintain at least one hour of continuous enrollment, including in the semester or session they expect to receive the degree. Students should maintain enrollment for two of the three academic semesters. Readmission will be required if the student has not enrolled in classes within the previous 12 months. Readmitted students should contact their department to learn more about their status. The department will contact the Office of the Registrar to initiate reactivation. Students who have been inactive for a long span of time should also investigate the status of their committees, programs of study, and time to degree status. International students' enrollment status is monitored by the Office of International Students and Scholars and the office should be contacted for more information. Only students *not* supported on a Graduate Assistantship are eligible to enroll in Continuous Registration.

Time Allowance and Limitations

Master's students have six calendar years to complete their degrees from the beginning of the first course taken and listed on the program of study, including any transfer courses. Doctoral candidates have four calendar years after the successful completion of their preliminary examination to complete their degree and they must complete their degree within eight years of the first course taken and listed on their program of study, including any transfer courses.

Guidelines for Satisfactory Academic Progress

Graduate students should undergo annual reviews within their academic unit to document and verify their progress and faculty expectations for them in attaining their degree. Students that do not meet the following guidelines for Satisfactory Academic Progress may be subject to dismissal by the academic degree-granting unit, contingent upon a joint review by the Department Head and Committee Chair. Dismissal of a student for lack of satisfactory academic progress requires that the student's deficiencies are clearly documented and the potential dismissal documentation must be provided to the student for response. Once presented with the potential dismissal, the student must be allowed one academic semester to rectify inadequate progress. At the conclusion of that semester, the Committee Chair and Department Head must jointly concur that the student progress is either satisfactory for retention or that the student should be dismissed from the degree program. For the purposes of determining satisfactory progress, the student must

demonstrate successful performance of their duties and completion rates under a specific timeline (specified in the proposed dismissal document). If the student cannot meet the maximum timeframe and completion rates below, they may receive a maximum of one 1-year extension of time to completion (specified in a document of retention), and only if the student holds academic standing to continue enrollment. Final decisions for dismissal or retention require agreement of both the Committee Chair and Department Head. Retention in the program requires that the Chair and Department Head document for the student all requirements for retention that clearly defines the path to successful degree completion within a specific time period. Retention requires that the student cannot drop or withdraw from any subsequent courses or enroll in coursework that is not identified in their program of study.

Maximum Credits

Students must graduate before attempting more than 150% of the hours required for their degree program (e.g. 45 hours for a 30-hour Master's degree program or 108 hours for a 72-hour Doctoral program.) Repeated courses (up to six hours) will accrue hours only once for the purposes of this calculation. Courses dropped in the drop/add period will not be included in attempted hours or the maximum credit calculations. Hours accumulated in one graduate program will count toward the maximum timeframe should the student initiate a new graduate degree program without completing their initial graduate degree.

Degree Status

Students must have an academic standing that allows for continued enrollment (i.e. 3.000 GPA in their graduate coursework and any other specific requirements of the degree program).

Research or project outcomes

Students must demonstrate delivery of research or creative products in disciplines for which they are required to attain the graduate degree. Research activity in itself should not be confused with products and outcomes. For example, an approved research proposal, a thesis, a dissertation, peer-reviewed publications, external project reports, performances or professional presentations are outcomes whereas writing, conducting a literature review, attending meetings etc., although important, are research activity but are not outcomes.

Petitions and Appeals

The University of Wyoming, as a fully-accredited public institution of higher education, must comply with general laws, regulations, and principles of fairness, uniformity, and accountability. Exceptions to uniform application of general regulations are justified only in extraordinary circumstances. Exceptions to regulations may be petitioned by submitting the appropriate form to the Vice Provost and Dean of the School of Graduate Education.

Regardless of the signer's recommendations, the Registrar may deny the exception. If the petition is denied by the Registrar, the student may elect to pursue the petition with the Vice Provost.

The Graduate Student Appeals Board (GSAB) was established to provide an appellate body to review appeals of graduate students concerning retention in graduate programs, employment as graduate assistants, and charges of academic dishonesty or scientific misconduct. The GSAB members are faculty and graduate students from the Graduate Council and represent campus-wide disciplines. The GSAB will not hear appeals of course grades or charges of academic dishonesty associated with a course (these appeals will be handled by the procedures of the college in which the course is offered). Appeals emanating from Plan B, thesis, or dissertation research will be heard by the GSAB. The GSAB will hear appeals of course grades or charges of academic dishonesty associated with a research

course (i.e. thesis, non-thesis, or dissertation research). Policies and procedures for graduate student appeals may be found on the School of Graduate Education website (http:// www.uwyo.edu/uwgrad/).

Steps Required for Degree Completion

Once a student enters a graduate program, it is critical to initiate a committee to guide course selection and the graduate program. Clear guidance from the department and the graduate committee, especially the committee Chair, facilitate steady progress toward a graduate degree. A student's graduate committee requires approval by the Department Head/Interdisciplinary Program Director, the College Dean (or VP/Dean of the School of Graduate Education in the case of interdisciplinary programs), and the Vice Provost and Dean of the School of Graduate Education. The committee functions to guide the student in coursework selection, the degree project construction, and in fulfilling the requirements to complete the degree.

It is the responsibility of the graduate student, in consultation with their major advisor (usually the Committee Chair) to form a viable committee within the first two semesters of their graduate program. The graduate committee must be on file with the Registrar before a program of study will be approved.

The committee will serve in an advisory capacity for development of the student's coursework and research programs and must approve the official Program of Study form filed with the Office of the Registrar. The committee will also determine pass or fail on the preliminary examination, approve or disapprove the project, thesis, or dissertation documents, and will conduct the final examination.

Changes in committee membership or faculty assignments can be requested at any time by the student, in consultation with the committee members and the department/division head. Committee changes require the written acknowledgement of faculty who are either added or removed from the committee, accomplished with the Committee Change Form.

More information on the Graduate Student Degree Timeline can be found on the School of Graduate Education website (https://www.uwyo.edu/uwgrad/graduate-degree-timeline.html).

Committee Formation

Every committee must be designed to best support the student project or research, facilitate a timely and effective graduate program, and to document fulfillment of all requirements of the graduate degree sought; committees should be formed by the end of the student's second semester. Committees are formed to guide the student and the research or project to ensure a rigorous and fair process. Students must weigh the expertise of the committee membership against the number of members they select, to ensure good mentorship and to facilitate meeting function and effectiveness.

The graduate committee consists of at least three members for master's and Ed.D. and five members for doctoral degrees: the chair of the committee (the major professor) from the degree-granting department or division, an outside faculty member of a department or division other than the one awarding the degree, and additional required members. Committees that include a co-chair may indicate the co-chair as the third member.

Graduate thesis and dissertation committee formation and membership are governed by the Graduate Committee Formation Policy. This policy is available on the School of Graduate Education Policies page: (https://www.uwyo.edu/uwgrad/policies.html).

Program of Study

Following formation of the committee, each student must submit a program of study to the Office of the Registrar for approval. The Program of Study form details the minimum coursework and credits that will apply in fulfillment of the

graduate degree. The Program of Study form is available online at, https://www.uwyo.edu/registrar/graduate-students/Graduate_Student_Forms.html.

The completed form should be returned with all required attachments to the Office of the Registrar. Degree Analysts will transcribe the program into a degree evaluation, which constitutes an agreement between the student, the student's committee, and the university wherein the minimum coursework requirements for that student's degree are listed. The program should be filed no later than the beginning of the student's third semester (or second Summer Session if enrolling only in summers). No master's student will be a candidate for a degree until his/her program is approved by the appropriate Department Head/Interdisciplinary Program Director and College Dean/Vice Provost. Master's degree candidacy coincides with the approval of the program of study.

The program of study must include the minimum number of appropriate semester hours of graduate credit required by the degree granting unit. Some degree programs require more than the minimum hours of credit required by the university. Students must consult with their advisers and all departmental guidance documents including this catalog. It is the responsibility of the student to ensure that their program of study complies with degree fulfillment requirements. Changes to an approved program must be submitted to the Registrar, using the Request for Change in Graduate Program form.

Language or Other Tool Requirements for Doctoral Candidates

The prospective Ph.D. student should refer to the specific department in which they desire to major to ascertain what languages or research tools are required. Certification of a language or tool, if required, will be made by the appropriate agency or department of the university to the Office of the Registrar when proficiency requirements have been met to fulfill the tool requirements. Students may demonstrate proficiency on a standardized language examination prepared by the Educational Testing Service, or by receiving at least a grade of B in a course (or courses) specified by a department on this campus or on a reading test administered by the department. It will be each student's responsibility to see that certification of proficiency for tool requirements is made. Coursework certification may be made from transcripts filed by the student with the Office of the Registrar.

Examinations

Examinations may be required of any graduate student or advanced-degree candidate at such time or of such nature as the department or the student's graduate committee may require. It is standard procedure for doctoral students (Ph.D. and Ed.D. students) to be given a preliminary examination, and for final examinations to be conducted for both masters and doctoral students. It is common for the nature of these exams to differ from one academic unit to another.

Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved. The format and conduct of this examination shall be the responsibility of the student's committee, in accordance with any departmental policies (see specific departmental guidelines).

Following the completion of the departmental preliminary examination, the Report on Preliminary Examination must be submitted to the Office of the Registrar, regardless of whether the student passed or failed. The favorable vote of the majority of the student's graduate committee members, including the Chair and Outside member, will be accepted as

passing. In case of failure, the student may repeat the examination once only, after 120 days have passed but not more than four semesters have elapsed. When the preliminary examination has been successfully completed, and the report of the committee is filed in the Office of the Registrar, the doctoral student is admitted to candidacy for the degree. At this time, the doctoral candidate has four years from the semester of the preliminary exam to complete the degree process.

Admission to Candidacy

Time spent in graduate study or accumulation of credit hours will not necessarily allow a student to become a candidate for an advanced degree. Admission to candidacy is an expression of the judgment of those who have observed the work and reviewed the credentials of the student, and deem the student worthy of the opportunity to complete the work for an advanced degree. Admission to candidacy for an advanced degree requires a specified procedure for specific degrees.

Final Examination

The final examination may not be held until after the beginning of the semester or session in which coursework is completed. The date, time, and place of the examination must be announced to the public a minimum of two weeks before the final examination is held. The committee may require the candidate to take a written examination as well as an oral examination. The thesis or dissertation document must be submitted to the candidate's committee at least three weeks prior to the final exam. The thesis or dissertation must be available for inspection by any other member of the faculty who may wish to examine it.

The oral and/or written examination should be held by the student's graduate committee at least *10 calendar days* before the end of the term of graduation (last day of finals). A student failing his/her final examination may retake the examination once only in the following minimum of one and not more than three semesters to allow the student to address any deficiencies identified by the committee during the initial testing.

Following the student's defense, the student will submit a signed Report of Final Examination form to the Office of the Registrar. The written vote of each member of a candidate's committee must be on record in the Office of the Registrar on the Report of Final Examination form. Committee signatures must indicate that the majority of the committee approve recommendation of the student to receive the advanced degree. Any majority of committee member signatures on this form that includes both the Chair and the Outside member will be received by the Registrar as indication that the degree should be awarded. The form also provides documentation from the student's committee that the student has passed the Final Examination/Defense and that the committee has approved the final version of the thesis or dissertation that will be publicly available. The Registrar requires the student to make the document publicly available via ProQuest. All students whose programs require a thesis/dissertation must submit the document to ProQuest by the *last day of classes* in the semester they plan to graduate. Once the final examination is passed and reported, a Degree Analyst will review the degree evaluation to verify that any discrepancies have been corrected, confirm that final grades on any remaining coursework have been posted, and that all required forms and documents have been submitted. Once all requirements have been met, the degree will be awarded.

Declaring a Graduation Date

An Anticipated Graduation Date form must be submitted for the semester in which graduation is planned. This form puts the student on the list for graduation. If graduation does not occur during the projected semester, the student must contact the Office of the Registrar to change their anticipated graduation date. Students who are entering their semester of graduation should:

1. Log into WyoRecords to declare their Anticipated Graduation Date. Instructions are available on the Office of the Registrar's page (https://www.uwyo.edu/registrar/graduate-students/Graduate_Student_Forms.html).

2. Pay their associated graduation fee, which will appear as a charge on their account within a few days following submission in WyoRecords.

If discrepancies are found during the degree check, the Degree Analyst in the Office of the Registrar will contact the student/chair with instructions for resolution.

Final Steps in Completion of Degree Requirements

Thesis or Dissertation Documents

The candidate shall submit an electronic thesis or dissertation demonstrating the candidate's ability to communicate the outcomes of their graduate program.

The master's thesis and doctoral dissertation are integral components of graduate education. For many disciplines, publication of student research in peer- reviewed journals is a hallmark of successful graduate education that validates the scholarly results. The university encourages the use of published papers in the final document, subject to some guidelines.

Publications included within a thesis or dissertation must be must have been submitted for publication in scholarly peer-reviewed journals. The citation for any published papers must appear within the introductory chapter. The publications must be written by the student. Editorial oversight by the mentor and committee is desirable; however, the mentor and committee have the responsibility to ensure that the student is the main author of the thesis or dissertation. For multi-authored journal articles included in the thesis or dissertation, the contribution of each author must be clearly stated in the preface or introduction to the thesis or dissertation and in a footnote on the first page of the article. If more than one publication is included, the articles must be joined into a coherent whole, having a clear focus of inquiry. In addition to the journal papers, a thesis or dissertation must include comprehensive introduction and discussion chapters that unite the document and provide context for the journal papers. A thesis or dissertation is not evaluated relative to accumulated credit hours. The thesis or dissertation document and all appendices must be provided in an electronic format for upload into ProQuest following the format of standards established by the University Libraries, ProQuest Information and Learning.

Digitizing and ProQuest Upload Requirement

All graduate students accept as a condition of enrollment that completed theses and dissertations will be published through ProQuest Information and Learning. This involves a special fee. The appropriate form for submitting the thesis/dissertation is available when submitting the project electronically through ProQuest Information and Learning.

Survey of Earned Doctorates

The university requires the Survey of Earned Doctorates and the Report of Final Examination form be submitted on or before the last day of classes in the semester the student plans to graduate. The survey is available on the Office of the Registrar's Graduate Student Forms page (https://www.uwyo.edu/registrar/graduate-students/Graduate_Student_Forms.html). All Ph.D. students must complete this survey.

Patenting or Copyright by UW

In some cases, where significant university funds or resources have been used in dissertation research, the university may claim an interest in patenting or copyrighting the results. When this seems likely, the student (or the student's major professor) should consult with the college dean or the vice president for research.

Classified or Proprietary Research

The process of research in graduate education is one of free and open inquiry involving the student and faculty. Final examinations for graduate degrees are open to all faculty, and theses and dissertations are accessible to the public upon acceptance by the university unless embargoed as approved in advance.

For the purposes of this policy, classified research is defined as research that has a security classification established by a federal agency. Classified research projects also require approval of the trustees before being initiated. Classified research cannot be used for a thesis or dissertation.

Proprietary research is defined as research for which the sponsor requires a delay in publication. Given these clarifications, the following policies are used for theses and dissertations. Proprietary research may be used for theses and dissertations. However, any delay caused by the proprietary nature of the research must be alleviated before the thesis or dissertation is submitted to the Office of the Registrar. Such delays cannot exceed six months without the approval of the college dean. Delays greater than 12 months in length will be approved only in unusual circumstances unless embargoed as approved in advance by the college dean. Sponsors of proprietary research should be aware that theses and dissertations are accessible to the public upon acceptance.

Embargo

An embargo on a thesis/dissertation is an intentional delay in the publication of its results. Because the university places high value on the open dissemination of knowledge and the professional advancement of its graduates, such embargos are strongly discouraged. Any embargo request must include compelling written justification and a proposed embargo period not to exceed one year. All embargo requests are subject to approval by the School of Graduate Education. In cases where justification involves intellectual property or prior contractual agreement, embargo requests also require approval by the Office of Research and Economic Development.

Overview of Graduate Degrees Awarded

In all cases, graduate students should confirm the departmental guidelines for the degree they seek. The information presented here is intended to provide only a general overview of the graduate degrees. Individual colleges and departments may apply more rigorous requirements for their graduate degrees than the minimal requirements described here.

Master's Candidates

The standard master's degrees are the Master of Arts (M.A.) and the Master of Science (M.S.). Generally, Master of Arts degrees are more common in the arts, humanities and social sciences, while Master of Science degrees are more common in the health, natural and physical sciences, business and engineering. The program of study includes a declaration that the student will pursue a particular project plan: either a Plan A thesis or a Plan B non-thesis. Once the program of study has been approved for a master's student, the student advances to candidacy. The master's program of study, whether a declared thesis or non-thesis project plan, must include a minimum of 30 hours of graduate credit.

A culminating defense is required for the Plan A and the Plan B master's programs. The final defense is an essential component of all graduate degree programs.

The defense structure and format is flexible but it should allow opportunity for the student to demonstrate content comprehension and application, critical and quantitative analysis, creative thinking, problem solving, synthesis, and evaluation.

Following the defense, regardless of the outcome, the student will submit a Report of Final Examination form to the Office of the Registrar. This form is available at https://www.uwyo.edu/registrar/graduate-students/Graduate_Student_Forms.html.

Plan A (Thesis) Master's

This program type must reflect a minimum of 26 hours of acceptable graduate coursework and four hours of Thesis Research credit (course number 5960; course number 5980 may also count). The Plan A thesis option accommodates original research, although the degree of originality and the definition thereof is sometimes program-specific. The planning, development, and production of the thesis is guided by the committee chair and the graduate committee.

The thesis is the final, written product of the project. General required guidelines for preparing a thesis are available in the "Thesis and Dissertation Format Guide." The thesis must be submitted to the student's committee at least three weeks before the intended date of final examination.

The electronic copy must meet the standards established by the faculty and those of the University Libraries. Each student normally submits at least three copies of his/her thesis: one for the thesis director, one for the department, and one to retain for personal use.

Plan B (Non-Thesis) Master's

The Plan B non-thesis program differs from the thesis program in that it includes additional hours of coursework instead of thesis hours. It permits a wider distribution of courses and permits a wider array of possible final products than the Plan A thesis program. The non-thesis project may take the form of a business plan or a professional portfolio. Each academic unit that engages in Plan B non-thesis activities often has its own set of principles that guide students in degree requirements. It is the responsibility of the student to consult with their committee chair to clarify specific guidelines for the Plan B Master's degree in their discipline.

Most, but by no means all, of the academic units that have students pursuing master's degrees in the Plan B non-thesis category have the students prepare a paper, or sometimes two papers, as their final project. In the selection of a subject and preparation of the paper(s), the student shall be guided by the committee, or adviser or, in some academic units, by the instructor(s) in charge of the course(s) connected to the paper(s). The paper(s) should present the results of study at a level of scholastic quality commensurate with a Plan A thesis project. The student and his or her adviser often, but not always, decide if a project will be Plan A or Plan B. Academic units have principles that guide students in this selection. Many units have rules that precisely dictate the type of program and project a student can conduct.

The format for the Plan B non-thesis paper should follow that of the Plan A thesis. However, Plan B non-thesis paper titles do not appear on the student's transcript, whereas Plan A thesis titles do. Plan B non-thesis papers are not filed in the University Libraries and they are not submitted to ProQuest. They are filed with the major academic unit.

Master of Arts in Teaching (M.A.T.) and Master of Science in Teaching (M.S.T.)

Candidates for the M.A.T. or the M.S.T. should have completed the requirements for teacher certification prior to application for admission to graduate study. The M.A.T./M.S.T. program is completely separate from State certification requirements. Hours used to meet certification requirements cannot be applied toward the M.A.T./M.S.T. degrees.

The M.A.T./M.S.T. degrees are only modifications of the Plan B non-thesis option and are subject to the requirements of the admitting department and the general requirements of the faculty.

At least 24 of the 30 semester hours required must be in a particular teaching area (e.g., chemistry, history), with at least 12 hours in one department. A student working jointly in two departments must take at least 12 hours from each department.

The M.S.T. is designed for one teaching area and must include 18 hours in, or the total required by, that area. A program designed for two teaching areas must include 12 hours in, or required by, each of the specified two areas. Courses offered by the Science and Mathematics Teaching Center do not constitute a separate area in themselves but may be applied to an appropriate area. A program designed for two teaching areas must be approved by the heads of both departments, and the graduate committee for this program must include one member from each department. The M.S.T. is intended for individuals teaching at the secondary level. The program should represent the student's needs.

Master of Business Administration (M.B.A.)

The Master of Business Administration degree is offered to qualified students who wish to pursue a professional and highly applied degree program. Offerings include full-time, on-campus programs of study and part-time, online programs of study.

The UW M.B.A. program delivers professional management education that connects principles, concepts, and intense case analysis with real-world experience as tools for making business decisions. Students will develop leadership and managerial skills and will possess the education and training needed to compete in today's rapidly changing global business environment. The total program experience, inside and outside the classroom, is designed to provide experiential learning along with access to powerful networks. Satisfactory completion of at least 36 semester hours and participation in all M.B.A. activities are required. Please see the Master of Business Administration section for specific requirements (http://www.uwyo.edu/mba/).

Master of Engineering (M.Eng.)

The Master of Engineering program is a coursework-intensive program designed for both new graduates and industry professionals who wish to build on their skill set and advance their career. Qualified students will have a bachelor's degree in an engineering or related science field. Courses can be taken on campus, through distance delivery mode, or a combination of both. With the approval of their advisors, students will take five courses in their desired specialization area and may select other courses from different fields that reflect their interests and career goals. Satisfactory completion of at least 30 semester hours of approved graduate courses is required.

Master of Music in Performance (M.M.)

The Master of Music in Performance is intended for the student who wishes to pursue a career as a performer, to prepare for doctoral study, or to improve his or her performance ability. Students must pass an entrance audition for admission to the program. The entrance audition should be performed the semester prior to admission. Graduate Placement Examinations in history and theory will be administered the week prior to the commencement of classes and will determine if a student may advance to graduate level coursework. Failure of one or more sections will require a refresher course in the fall (Graduate Fundamentals). Major area studies consist of courses appropriate to the student's area of concentration. A minimum of 50% of courses taken must be deemed "graduate level only" (5000-level). Satisfactory completion of at least 30 semester hours and a Plan B paper or lecture-recital are required. Please see the Department of Music section for specific requirements (http://www.uwyo.edu/music/graduate_students/index.html).

Master of Music Education (M.M.E.)

The Master of Music Education is intended for those students who wish to improve their teaching abilities for the public school environment or to enable them to teach at the college and/or university level. Graduate Placement Examinations in history and theory will be administered the week prior to the commencement of classes and will determine if a student may advance to graduate level coursework. Satisfactory completion of at least 30 semester hours is required. Either Plan A (thesis) or Plan B (non-thesis) options are available. Please see the Department of Music section for specific requirements (http:// www.uwyo.edu/music/graduate_students/index.html).

Master of Public Administration (M.P.A.)

The Master of Public Administration degree is designed for both pre-career and mid-career students who seek leadership positions in public service. The program is designed to meet the needs of place-based working professionals through distance education technology, while full-time traditional graduate students can pursue their coursework in-person, on campus. At least three years of successful professional experience is required to be classified as "mid-career." For traditional graduate applicants, an internship is required at some phase of their studies on campus. Satisfactory completion of at least 39 semester hours is required. Please see the Political Science section for specific requirements (http://www.uwyo.edu/mpa/index.html).

Master of Social Work (M.S.W.)

The Master of Social Work is designed to prepare graduate students for advanced level social work practice and leadership positions in human service organizations with an emphasis on social justice and anti-oppressive perspectives. The M.S.W. program is focused on an advanced generalist curriculum and rural social work that relies on the problem-solving method and is based on the values, knowledge, and skills of the profession. The M.S.W. is a full time, campus-based program that utilizes different course delivery methods to accommodate its widespread student population. Satisfactory completion of at least 69 credit hours for the standard two-year program and 38 credit hours for the advanced standing M.S.W. program is required. Either Plan A (thesis) or Plan B (non-thesis) options are available. Please see the Division of Social Work section for specific requirements (http:// www.uwyo.edu/socialwork/prospective-students/msw-admissions/).

Doctor of Nursing Practice (D.N.P.)

The Doctor of Nursing Practice degree is the terminal academic preparation for nursing practice. UW's DNP program prepares family nurse practitioners (FNPs) and psychiatric mental health nurse practitioners (PMHNPs) to engage in evidence-based practice to optimize health outcomes and engage in leadership activities to promote excellence in rural health care. Both the FNP and PMHNP programs of study require three years of full-time study, which includes 84 credit hours and a minimum of 1140 clock hours of clinical practica experiences. During their final year in the program, students conduct a capstone quality improvement project in conjunction with a clinical agency. Please see the School of Nursing section for specific requirements (http://www.uwyo.edu/nursing/programs/DNP/index.html).

Doctor of Pharmacy (Pharm.D.)

The University of Wyoming School of Pharmacy offers a four-year program of study leading to the Doctor of Pharmacy (Pharm.D.) degree as the only entry-level professional degree in pharmacy. Students are admitted to the professional program following a preprofessional program of not less than two years in length with a total of at least 67 semester credit hours. The Doctor of Pharmacy degree requires satisfactory completion of 146 hours of coursework

taken over a four-year period. Please see the School of Pharmacy section for specific requirements (http://www.uwyo.edu/pharmacy/doctor-of-pharmacy-program/index.html).

Doctor of Education (Ed.D.)

The degree of Doctor of Education (Ed.D.) is offered to competent students who wish to pursue a program of study and to participate in appropriate activities in preparation for professional service in teaching, administrative, and supervisory positions in education. The program is designed to meet the needs of those for whom intensive research is not a practical prerequisite to vocational goals. Doctoral students are expected to participate not only in organized coursework but also in informal types of activities that will insure breadth of outlook and technical competence.

Each student admitted into the Ed.D. program must furnish satisfactory evidence of having had three years of successful professional experience. This experience may be in teaching or administration or both. The student's graduate committee will determine what experience shall be required and when this requirement has been satisfied.

At least 36 semester hours must be earned in the major field. The degree requires a minimum of 72 graduate hours (beyond the bachelor's degree) to complete all requirements. In addition to the program of studies in organized coursework, the doctoral student will be required to complete and publicly defend an approved applied project report or dissertation within the major field of professional specialization. The project or dissertation can be a collaborative work conducted among multiple (typically two or three) graduate students in the same program area.

A student who has taken a major part of his/her undergraduate and graduate training at UW may be required by his/her graduate committee to do a specified portion of graduate work at some other institution. Please see the College of Education entry for specific requirements (http://www.uwyo.edu/education/current- students/graduate-education/index.html).

Doctor of Philosophy (Ph.D.)

The Doctor of Philosophy degree does not represent a specified amount of work over a definite period of time but rather the attainment of independent and comprehensive scholarship in a particular field. Such scholarship will be manifest in a thorough acquaintance with present knowledge and a demonstrated capacity for research. The fulfilling of the following requirements suggests, therefore, only the minimum task one must undertake to earn the Doctor of Philosophy degree. No amount of time spent in graduate study or accumulation of credit hours entitles the student to become a candidate for this degree.

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above from UW or equivalent levels from another approved university. This 72-hour requirement may include graduate credits earned while working toward the master's degree in the same area, but at least 42 hours (of the 72) must be earned in formal coursework. Additional credits toward the 72-hour requirement may include additional formal course credits, Dissertation Research credits (5980 course number; course number 5960 credits may also be applied), or Internship credits (5990 course numbers). The program of study must be on file in the Office of the Registrar before the preliminary examination can be scheduled.

Miscellaneous Regulations

QuickStart Programs

QuickStart programs allow a qualified student to complete bachelor's and master's degrees in as little as five years. In addition to applying up to six hours of reserved graduate credit, approved QuickStart programs allow students to

double-count up to six hours of 4000/5000-level coursework toward the bachelor's and master's degrees. QuickStart students only become classified as graduate students once they have completed all requirements of the bachelor's degree, usually in year five.

Readmission

When a student is not registered at UW for one or more years, without an approved leave of absence, the student is automatically reclassified as inactive and must reapply for admission.

Students wishing to pursue direct entry into a doctoral program following their bachelor's degree

The requirements for entry into a doctoral program are determined by the departmental faculty. In some cases, students may enter a doctoral program without having attained a master's degree. These decisions are made on an individual basis. Such students must fulfill all the requirements of a doctoral degree but may be limited in the number of graduate hours they hold in application to the 72-hour minimum. Careful planning with the graduate program and committee is needed to assure that the student makes clear progress to the degree. One consideration of the student is whether they will obtain a master's degree on the way to the doctorate. If so, the student should be considered a master's degree student until that degree is accomplished, or until the preliminary exam is passed. Once the preliminary exam is passed, the student may be considered a candidate for the doctoral degree, just as other students would. Students who do not hold a master's degree cannot be considered a candidate for the doctoral degree until they have passed their preliminary exam.

New Parent Accommodation Policy

The University of Wyoming is dedicated to ensuring optimal success for all graduate students. However, new parents are frequently forced to interrupt their education cycle, sometimes in a transient manner but often permanently.

The New Parent Accommodation policy is designed to allow new parents to maintain full-time, registered student status and facilitate their return to full participation in graduate activities in a seamless manner without penalty. The policy applies to full-time students enrolled in a graduate program. The university encourages accommodation of schedules for exams, assignments and programs of study for the graduate student partner. This accommodation does not apply to part-time students.

A student anticipating becoming a new parent is eligible for accommodation consideration for a period of up to one semester. The exact accommodation period will begin on the date specified on the New Parent Accommodation petition approved by the college dean. This petition must be filed and approved prior to the actual date of childbirth or adoption. Additional information can be found at http://www.uwyo.edu/uwgrad/policies/.

Armed Services

Time spent in the armed services is not computed in the total time allowed to complete the requirements for an advanced degree; however, students who are eligible and wish to use this time exclusion must file the leave of absence petition.

International Students

Upon arriving at the University of Wyoming, international students are required to visit the International Students and Scholars (ISS) office. This office:

- Provides support and counsel for UW's international students and scholars population regarding aspects of immigration regulations and procedures;
- orients this population to the policies and expectations of the university, the educational system, and the U.S. culture;
- hosts a mandatory orientation program for all new international students before the beginning of each semester.

Please see the ISS website for detailed information (https://www.uwyo.edu/iss/).

International graduate assistants with teaching responsibilities must demonstrate sufficient English Oral Proficiency (https://www.uwyo.edu/study-iep-esl/grad-ta-support/more_opi_information.html/). International graduate students from some countries may be exempt. See, https://www.uwyo.edu/study-iep-esl/grad-ta-support/more_opi_information.html/more_opi_information.html#countries.

Graduation Requirements and Procedures

- Graduation Requirements
- Adjustment to Changing Requirements
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Graduation Requirements

Students are personally responsible for knowing degree requirements and enrolling in courses that fulfill their degree program. Students, with the help of their advisers, design their program to satisfy their needs and aims. Students will be required to complete assessment activities as determined by the university prior to the awarding of degrees. Students are likewise held responsible for knowing regulations governing the standard of work required for continuance in the university involving academic probation and suspension.

Although this catalog is intended to set forth the various provisions for study and requirements for the awarding of degrees, periodic revisions of the provisions for study and degree requirements are appropriate (because of advances in knowledge, changes in occupational requirements, academic preparation of students, and in faculty and facilities at the university). In order for the catalog to be available in spring of each year, publication must begin the previous October. This is almost a year before the requirements specified therein become effective the following fall and almost five years

before a student entering at that time could graduate. Accordingly, the university cannot guarantee the awarding of a degree based on the unchanged requirements as set forth in a particular catalog.

Adjustment to Changing Requirements

Students are expected to inform themselves of changes in degree requirements by reviewing the catalogs that are published annually and their Degree Evaluation reports; then, when necessary, adjust their degree plans accordingly.

If university or college requirements are changed, students are encouraged to adopt the new requirements; however, students will have the option of graduating under the requirements in effect when they entered the university or one of Wyoming's community colleges, provided the courses are still available. The student must accept either the new requirements or the requirements in effect when they entered the university or one of Wyoming's community colleges in their entirety, not a combination from each. Students changing colleges within the university or reentering the university after one or more years away are expected to adopt the requirements in effect at the time of the reentry. Any substitution to the above must be approved in writing by the student's adviser and the college dean and added to the student's advising folder in the department or college.

If departmental requirements are changed, students will ordinarily be permitted to continue under the requirements in effect when they entered that major department provided there has not been an interruption in their education for a year or more; however, students are encouraged to adopt the new requirements. Notice of changes will be available from departmental offices and advisers. It is the responsibility of students to keep in touch with their major departments, to learn of changes in requirements, and to plan ahead so that necessary courses can be taken by the expected time of completing a degree. Many courses are not given every semester and some not every year.

If required prerequisites for a course are changed, notice may be obtained from the department offices. The university cannot continue two courses, one with and one without a newly-adopted prerequisite. The student must therefore meet the new prerequisite or obtain permission from the instructor to enroll in the course. In the event of any doubt as to the adequacy of preparation for a course, the student should consult with the instructor or an adviser in the department as far in advance as possible. Independent study, if approved, may be accepted in lieu of a specific course prerequisite.

Scholarship Standards

A UW cumulative grade point average (GPA) of at least 2.000 is required for undergraduate degrees and 3.000 for graduate degrees. The cumulative grade point average is defined as the sum of all grade points earned in residence, via Distance Education at the University of Wyoming, with the following exceptions:

1. The credit hours shall not be counted in courses in which marks of W, S, or U were assigned, or in which marks of I (for incomplete) are still in effect.
2. For repeated courses:
    a. First repeat: only the second credit and grade is used to calculate the cumulative GPA.
    b. If repeated more than once, only the last grade is used to calculate the cumulative GPA.
    c. If a mark of W, S, or U is assigned in a repeated course, the previous grade assigned will stand except when an S or U is earned repeating a previous S or U.
    d. Courses applied towards one completed undergraduate degree may be repeated as part of a second degree; however, the grade and GPA in the original degree will not be changed.
3. Transfer grades are not counted in the UW GPA. If a course taken at UW is repeated for the first time at another institution, the credits and grade earned at UW will be deleted from the UW cumulative GPA if credit for the repeated course is transferred to UW.
4. For graduate students, courses numbered below 4000 are not added into the semester and cumulative totals, nor computed into the GPA.

Semester Hour Requirements

Completion of the total minimum credit hours for undergraduate degrees from the various colleges is indicated below:

College of Agriculture and Natural Resources	120-128 hours
College of Arts and Sciences	120-128 hours
College of Business	120 hours
College of Education	120-128 hours
College of Engineering and Applied Science	120-132 hours
College of Health Sciences	120-123 hours
School of Energy Resources	120 hours

These minimum hour requirements are in line with the Higher Learning Commission's criteria for accreditation.

The total minimum credit hours for graduate degrees depends on the degree earned. Masters degrees require 30 credit hours and Doctoral degrees require 72 credit hours. See the Graduate Student Regulations and Policies for more details.

University Baccalaureate Requirements

1. A cumulative GPA of 2.000 or better from the University of Wyoming;
2. Satisfactory completion of the prescribed curriculum in which the degree is sought, including fulfillment of the entrance requirements in the college concerned;
3. Satisfactory completion of the University Studies Program: Students who entered the University of Wyoming, one of Wyoming's community colleges, or an out-of-state academic institution fall 2015 or later, are required to complete the University Studies Program 2015, a university-wide program in general education. The detailed requirements for the University Studies Program are provided in this catalog on page 53.
4. Students must complete a minimum of 42 upper division (junior/ senior) or graduate-level semester credit hours, 30 of which must be earned from the University of Wyoming. Credit by examination does not count towards the required 30 hours of residency credit;
5. Not more than 24 semester hours of correspondence study courses may be used toward fulfilling requirements for a bachelor's degree;
6. Not more than 4 semester hours of credit in physical activity courses can count toward the minimum credit hour requirement for a bachelor's degree;
7. The last credit applicable to degree requirements must be earned from the University of Wyoming with the following exception: students of senior standing may complete degree requirements elsewhere by obtaining special permission of the department head, adviser, and college dean, and declaring an anticipated graduation date with the Office of the Registrar;
8. Native language credit: students are not allowed university credit for language courses below the 4000-level in their native language.

Assessment Requirement

Students may be required to complete assessment activities as determined by the university prior to the awarding of degrees.

Second Bachelor's Degree

Students seeking a second bachelor's degree must meet all of the university and college requirements as prescribed for a first bachelor's degree. Students whose first degree was received from an institution where English is not the predominant language must complete the University Studies Communication I (COM1) and Communication II (COM2) requirements. The second bachelor's degree may have the same title as the first degree and may be in the same college as the first degree; but if in the same college it must be in a different major. Grades earned in all undergraduate course work (including courses applied towards a previous UW bachelor's degree) are included in the calculation of the cumulative GPA.

The minimum study requirement for a second bachelor's degree is 30 additional semester hours earned from the University of Wyoming, 12 of which must be in upper division (junior/senior-level) or graduate-level courses. However, a student must also fulfill all of the college and major requirements for the second degree. Credit by examination does not count toward UW residency. The 30 hours is in addition to the study requirement for the first degree for those students earning the first degree from the University of Wyoming. The 30 additional hours would be added to the degree requiring the least number of hours. Both degrees may be awarded at the same commencement.

Courses applied towards one completed degree may be repeated as part of a second degree; however, the grade and GPA in the original degree will not be changed.

Students with a bachelor's degree from an accredited U.S. institution will be considered to have met the UW University Studies (USP) program requirements, with the exception of the US and Wyoming Constitution requirement, unless previously completed.

Second Bachelor's Degree Transfer Policy

Typically, undergraduate coursework from other collegiate institutions will not be loaded individually into the University of Wyoming student database after a bachelor's degree has been earned for the student. In situations in which a student who has previously earned one bachelor's degree from the University of Wyoming is subsequently required to take coursework from another collegiate institution to fulfill major and overall hour requirements for a second degree from the university, the student's department can ask the Office of the Registrar to load selected courses into the student's record. As with all students who wish to earn two bachelor's degrees from the university, the student will be required to successfully complete the following requirements:

- Major requirements for the major of the second degree
- College requirements for the college which will award the second degree
- A minimum of 30 additional semester hours over the minimum required for the student's first degree
- At least 60 earned semester hours from the University of Wyoming (30 required hours for first degree, 30 additional hours required for second degree)
- At least 54 earned semester hours of upper division (3000+- or junior/senior- level) credit (42 required upper division hours for first degree, 12 additional upper division hours required for second degree)
- At least 42 earned semester hours of upper division (3000+- or junior/senior- level) credit from the University of Wyoming (30 required upper division hours from UW for first degree, 12 additional upper division hours from UW required for second degree)

Concurrent Majors

Students may pursue a concurrent major in one or more colleges. Only one degree (BA, BS, etc.) will be awarded from the college of the primary major. All university curricular requirements, including the University Studies Program requirements, must be met only once. Requirements for secondary major(s) will be established by the academic departments and may include college requirements, in addition to all major requirements. An academic adviser in each major is required and each adviser must review requirements. The degree will be granted on one date only and only one diploma will be awarded. Both majors will be indicated on the academic transcript and diploma.

Dual Degrees

It is possible to pursue degrees in one or more colleges. The university requirements and University Studies Program requirements must be met only once. Students must meet the all college and major requirements of both majors. Students must complete an additional 30 semester hours from the University of Wyoming, 12 of which must be in upper-division (junior/senior-level) or graduate-level courses beyond the credit hour requirement for the degree with the minimum number of credit hours required. An academic adviser in each major is required and each adviser must review requirements. Multiple degrees and multiple diplomas will be awarded; however, the completion date must be the same. Both colleges, degrees, and majors will be indicated on the academic transcript.

Graduate Student Requirements

Graduate students must have a Committee Assignment (if required), a Program of Study, and Preliminary Examination Results forms (doctoral students only) on file before they may submit an Anticipated Graduation Date form. Upon receipt of the form, the Degree Analyst in the Office of the Registrar will verify that all course requirements have been met. If discrepancies are found, the Degree Analyst will contact the student with instructions on how to resolve them. The Degree Analyst will also verify that the student has registered for a minimum of one semester hour for the current semester. If there are questions, the student should contact the appropriate Degree Analyst.

Before the Defense

A formal public announcement of thesis and dissertation defenses is required. Students should contact their department for specific procedures.

Prior to the defense, the student should complete the Report of Final Examination form and take it to the defense.

After the Defense

Following the defense and when all committee signatures have been secured, the student should submit the Report of Final Examination Results form to the Office of the Registrar (note: committee chairs may delay signature until all necessary changes to the thesis/dissertation/ non-thesis paperwork have been made and approved).

After submission of the Report of Final Examination Results form which indicates all changes/revisions have been made and the thesis/ dissertation is approved for final submission, the student will submit the document for format review and final electronic publication to ProQuest. The student will be advised if additional corrections are required.

Ph.D. students will need to complete the NORC Survey of Earned Doctorates through the procedure noted on the Graduate Student Graduation page of the Office of the Registrar website.

Degree Evaluation/Declaring a Graduation Date

All students have an electronic degree evaluation available through WyoWeb that shows requirements of the degree program and the progress that the student is making toward meeting those requirements. Any discrepancies should be reported to a degree analyst in the Office of the Registrar as soon as possible.

Students are responsible for notifying their degree analyst of their anticipated date of graduation with an Anticipated Graduation Date form. Students are encouraged to submit the Anticipated Graduation Date form as early as possible in the expected term of graduation. Delaying this action could affect graduation, as requirements indicated on the degree evaluation must be met prior to a student being cleared for graduation.

Graduation Fee

Payment of the graduation fee of $30.00 for each degree or certificate to be earned is due by the last day of classes from all students planning to graduate.

Grades

Final grades covering completion of course work in Distance Education, transfer, special examinations, and incomplete work from previous attendance must be submitted to the Office of the Registrar no later than the deadline for submission of final UW grades for the term in which the degree is to be conferred.

Final Approval

Final recommendation of the faculty and approval of the University Trustees for conferral of degrees is required. The trustees may, for good cause, decline to confer a degree upon any candidate.

Participation in Commencement Exercises

Commencement is not the same thing as graduation. All academic colleges hold commencement exercises on the May graduation date. Several of the colleges also have commencement exercises in December. Check the appropriate college dean's office for specific information. Students in their final year of study who have declared graduation dates are considered candidates for graduation. Students in certificate programs do not participate in commencement. **Participation in the exercise does not automatically confer degrees. Confirmation of graduation will occur after a review of final course work.**

The official graduation dates for the 2023-2024 academic year are December 9, 2023 and May 11, 2024. Please note that commencement ceremonies might be held on days other than the official date. To be eligible for a graduation date, all work must be completed prior to that date.

Commencement exercises are a historical academic custom involving participation by all segments of the university and attendance by members of the graduate's families and friends as well as the general public. Those students who participate in commencement exercises are expected to wear appropriate traditional academic regalia.

Graduation with Honors

Designations of summa cum laude, magna cum laude, and cum laude will be added to the baccalaureate academic transcripts and diplomas of graduating undergraduate students earning at least 48 credit hours from the University of Wyoming (of which 45 hours must be for A-F grades) based on the following percentages:

Top 1%	summa cum laude
Next 4%	magna cum laude
Next 5%	cum laude

as computed from the GPAs of graduating undergraduate students in each college. Honors graduates will be identified by comparison to a 5-year rolling grade point distribution computed for each college, to be recomputed annually each spring semester.

These designations are effective with the fall 2000 semester and are not retroactive.

Honor graduation will be granted for students in the College of Law upon successful completion of 56 hours in the college with a cumulative GPA of 3.400 or better based on University of Wyoming College of Law courses.

A Doctor of Pharmacy is awarded with honor by the university to a student who graduates with scholarship in pharmacy of unusual excellence as defined by the School of Pharmacy.

Honor Societies and Programs

- All Academic Disciplines
- College of Agriculutre, Life Sciences and Natural Resources
- College of Arts and Sciences
- College of Business
- College of Education
- College of Engineering and Applied Science
- College of Health Sciences
- University Honors College
- College of Law

All Academic Disciplines

Phi Beta Kappa has been one of the most respected societies in the world for more than 200 years. Phi Beta Kappa was founded in 1776 at the College of William and Mary, Virginia. Within a decade, chapters arose at Yale, Harvard, and Dartmouth. The Wyoming chapter received its charter in 1940, and today fewer than 270 colleges and universities in the United States meet the strict qualifications for housing a chapter. UW faculty and administrators annually elect to membership fewer than one-tenth of the leading scholars of the senior class, candidates for the degrees of Bachelor of Arts and Bachelor of Science. In exceptional cases a junior may be elected. In addition to having a distinguished academic record, a student eligible for Phi Beta Kappa must pursue a balanced and broad course of study, which includes a foreign language as well as courses in math, the sciences, and the humanities. At least 90 hours of the student's course work must be in the liberal arts and sciences. Students are reviewed for eligibility and are notified by mail the spring of their election. Phi Beta Kappa promotes the ideal of a community of scholarship, and every year the Chapter sponsors an eminent visiting lecturer for the entire university.

The national honor society of Phi Kappa Phi, founded in 1897, recognizes and encourages superior scholarship in all curricula of the colleges and divisions of the university. No other honor society has higher academic standards for admission. Good character is also an essential supporting attribute for those scholars elected to membership. The University of Wyoming chapter of Phi Kappa Phi sets minimum cumulative grade point requirements at 3.500 for seniors, 3.800 for juniors and 3.900 for graduate students. In addition, there are minimum requirements in terms of hours completed at UW. Since the chapter may initiate no more than ten percent of the number of seniors in each college, the actual grade point cutoff is often higher than these minimums. In the spring of each year, students' records

are reviewed and letters of invitation are sent to those eligible for election to the society. Supplementing the work of its chapter, the national society awards fellowships for graduate study. The UW Phi Kappa Phi chapter is administered by the Honors College.

College of Agriculture, Life Sciences and Natural Resources

Agriculture majors - *Alpha Zeta* is a national honorary for students in agriculture who demonstrate academic excellence, character and leadership. Applications for membership are sent to eligible students. *Gamma Sigma Delta* is a national honor society open to students in agriculture. Potential members are invited to membership based upon academic excellence. *Phi Upsilon Omicron* is a national honor society in family and consumer sciences. Potential members are invited to membership based on academic excellence and leadership. *Pi Alpha Xi* is a national honorary horticulture society, open to UW students with a minor in horticulture. Students are invited to join based upon academic excellence and leadership.

College of Arts and Sciences

Art - A *Bachelor of Fine Arts* in art is considered honorary.

Biology and Botany - This Honors Program is for students majoring in biology or botany with strong interests in independent research with a focus in ecology, evolution, systematics, bioinformatics, biostatistics or data science. Application to the biology or botany honors program may be made after completion of the sophomore year with a cumulative grade point average of 3.300.

Chemistry - *American Chemical Society* - The Department of Chemistry is closely associated with the Local Wyoming Chapter of the American Chemical Society. The American Chemical Society (ACS) is one of the largest scientific societies in the world - its purpose is to promote chemistry and educate the public on the impacts of the chemical profession on the economy, technology, and education. The ACS organizes both national and regional scientific meetings; our local section supports student travel to these meetings. The chemistry department also sponsors a Student Affiliates section of the ACS, which is mentored by a UW chemistry faculty member and serves the needs of our chemistry majors.

Communication - *Lambda Pi Eta* recognizes, fosters, and rewards outstanding scholastic achievement while stimulating interest in the communication discipline.

Criminal Justice - *Alpha Phi Sigma - Epsilon Omega Chapter*, criminal justice honorary. A national honorary society for Criminal Justice that recognizes the academic excellence of Criminal Justice students. Alpha Phi Sigma is a collaboration with the Academy of Criminal Justice Sciences.

English - *English Honors Program* enables junior and senior English majors who carry a grade point average of 3.500 or better in their English courses to intensify and enhance their studies by working closely with a supervising faculty member to develop a senior honors project, a piece of writing on a topic in English studies. *Sigma Tau Delta - Alpha Mu Omicron Chapter*, international English honor society.

Gender and Women's Studies - *National Women's Studies Association*; one of its primary objectives promoting and supporting the production and dissemination of knowledge about women and gender through teaching, learning, research and service in academic and other settings.

Geography - *Gamma Theta Upsilon - Eta Eta Chapter* candidates must have completed three semesters of college coursework and three courses in Geography, with a grade point average of 3.000 or higher for these courses. Contact department Department of Geology and Geophysics/ Geography Program for more information.

Geology - Eligible students are Bachelor of Science degree holders with honors, majoring in geology or geophysics. They must meet an overall grade point average of 3.200, a grade point average of 3.200 in the major, and successful completion of an independent research project. Contact department Department of Geology and Geophysics/ Geography Program for more information.

History - *Phi Alpha Theta* is a professional society whose mission is to promote the study of history through the encouragement of research, good teaching, publication, and the exchange of learning and ideas among historians. It seeks to bring students and teachers together for intellectual and social exchanges, which promote and assist historical research and publication by our members in a variety of ways. The society currently has over 400,000 members, with some 9,000 new members joining each year through 970 chapters nationwide.

International Studies - *Sigma Iota Rho*: The purpose of Sigma Iota Rho is to promote and reward scholarship and service among students and practitioners of international studies, international affairs, and global studies and to foster integrity and creative performances in the conduct of world affairs. Membership provides public recognition of the best and the brightest students in the International Studies major and highlights the importance of contributing to the global community.

Journalism - *Society of Professional Journalists, Sigma Delta Chi*

Languages - The Department of Modern and Classical Languages sponsors chapters of two nationally recognized Honor Societies in Spanish.

Alpha of Wyoming Chapter of Sigma Delta Pi - To honor those who attain excellence in the study of the Spanish language and in the study of the literature and culture of the Spanish-speaking peoples; to honor those who have made the Hispanic contributions to modern culture better known in the English-speaking world; to encourage college and university students to acquire a greater interest in and a deeper understanding of Hispanic culture; to foster friendly relations and mutual respect between the nations of Hispanic speech and those of English speech; to serve its membership in ways which will contribute to the attainment of the goals and ideals of the society.

Sigma Delta Pi National Spanish Honorary Society celebrates its 100th anniversary in 2019. Our very active UW chapter was recognized in 2011 as a national honor chapter. Each semester we initiate new members who meet high academic standards and are dedicated to the study and teaching of Spanish. Chapter awards and student scholarships include study abroad opportunities and recognition of outstanding scholarly research and writing.

Music - *Presser Award* is conferred by vote of the department faculty for outstanding senior in music. *Pi Kappa Lambda*, selected by faculty on the basis of outstanding scholarship and musical accomplishments.

Physics and Astronomy - *Sigma Pi Sigma*: Sigma Pi Sigma (sigmapisigma.org) exists to honor outstanding scholarship in physics, to encourage interest in physics among students at all levels, to promote an attitude of service, and to provide a fellowship of persons who have excelled in physics.

American Physical Society (APS): The American Physical Society (www.aps.org) is a non-profit membership organization working to advance and diffuse the knowledge of physics through its outstanding research journals, scientific meetings, and education, outreach, advocacy and international activities. APS represents over 50,000 members, including physicists in academia, national laboratories and industry in the United States and throughout the world. Society offices are located in College Park, MD (Headquarters), Ridge, NY, and Washington, DC.

American Astronomical Society (AAS): The American Astronomical Society (aas.org) is the major organization of professional astronomers in North America. The mission of the American Astronomical Society is to enhance and share humanity's scientific understanding of the universe.

Political Science - *Pi Sigma Alpha, Epsilon Beta Chapter* seeks "to stimulate scholarship and intelligent interest in political science." The society sponsors programs and events of value to the profession and teaching of political science. Membership provides public recognition of the best and brightest students in the Political Science major. Each chapter is encouraged to provide a framework for enriching the exposure of its members and the wider university community to the study of government and issues of public concern.

Pi Alpha Alpha, national public administration honorary. The purpose of Pi Alpha Alpha is to encourage and recognize outstanding scholarship and accomplishment in public affairs and administration. Its objectives, such as fostering integrity, professionalism, and effective performance, promote the advancement of quality in the education and practice of the art and science of public affairs and administration. PAA membership identifies those with the highest performance levels in educational programs preparing them for public service careers.

Psychology - *Psi Chi* - The Psychology Department supports a chapter of Psi Chi, the International Honor Society in Psychology. This local Psi Chi group functions within a larger Psychology Club that serves undergraduates interested in Psychology. The chapter and club are jointly involved in many activities, including community service projects, peer advising and graduation festivities.

Sociology - *Alpha Kappa Delta*, the international honorary society for sociology. In addition, sociology majors with a 3.2 overall GPA, a 3.500 GPA in sociology courses and two 5000-level sociology classes graduate with honors in sociology.

College of Business

Accounting - *Beta Alpha Psi, Delta Alpha Chapter*, is the UW chapter of the national accounting honorary. Membership in this very active student honorary is awarded only to the very best accounting students.

Business Administration - *Beta Gamma Sigma* is the national scholastic honor society. It is the arm of the accrediting group, AACSB International. Membership is very selective and based on class rank and grade point average.

College of Education

Kappa Delta Pi - Alpha Mu Chapter is the university chapter of the international honor society in education. The purpose of the society is to promote excellence in and recognize outstanding contributions to education. Invitation for membership is extended to those persons who exhibit commendable professional qualities, worthy educational ideals and sound scholarship.

Mu Na Tau Chapter of Chi Sigma Iota is a Counseling Academic and Professional Honor Society International for counselors-in-training, counselor educators, and professional counselors. The mission of Chi Sigma Iota is to promote scholarship, research, professionalism, leadership, and excellence in counseling, and to recognize high attainment in the pursuit of academic and clinical excellence in the field of counseling. The CSI International homepage can be found at www.csi-net.org/index.cfm. The local chapter, Mu Nu Tau, encourages the furtherance of high standards of scholarship and professional practice through study groups, speaker programs, workshops, colloquia awards, social activities, and networking opportunities.

College of Engineering and Physical Sciences

Engineering majors - *Tau Beta Pi* is a national honor society for all engineering majors. The purposes of the society are to honor outstanding student scholarship and to provide a spirit of liberal culture in the College of Engineering and Applied Science. Membership is offered to outstanding junior, senior and graduate engineering students of high scholastic ability and exemplary character.

College of Health Sciences

Kinesiology - *Phi Epsilon Kappa* is a national professional fraternity dedicated to enhancing education, promotion of student research, community outreach, and professional development for persons pursing careers in health, physical education, recreation, and other related fields.

Nursing - *Sigma Theta Tau* - academic leadership honorary. The mission of the Honor Society of Nursing, Sigma Theta Tau International is advancing world health and celebrating nursing excellence in scholarship, leadership, and service.

Pharmacy - *Phi Lambda Sigma* - The objective of Phi Lambda Sigma is to recognize and promote leadership qualities in pharmacy students, faculty and alumni.

Social Work - *Phi Alpha*. The purpose of the Epsilon Delta Chapter of the Phi Alpha Social Work National Honor Society at the University of Wyoming Division of Social Work is to provide a closer bond among students of social work and promote humanitarian goals and ideals. Phi Alpha fosters high standards of education for social workers and invites into membership those who have attained excellence in scholarship and achievement in social work. The goals of Phi Alpha include the provision of service to the campus, local, and state communities in Wyoming; the promotion of social, economic and environmental justice on campus and in the community; and the development of student leadership skills.

University Honors College

The UW Honors College provides recognition and awards for select students, faculty and administrators via *The National Collegiate Honors Council and The Western Regional Honors Council* in the areas of academic achievement, civic responsibility, and personal development. The Honors College also administers the University of Wyoming chapter of *Phi Kappa Phi.* In the spring of each year, students' records are reviewed and letters of invitation are sent to those eligible for election to the honor society. Supplementing the work of its chapter, the national honor society awards fellowships for graduate study.

College of Law

Law majors - *Order of the Coif* is an honorary society which recognizes legal scholastic excellence. Each year, the chapter may initiate into membership those students who graduate in the highest ten percent of their class.

Other University Services

- Distance Credit Programs

University Store
Misty Eaton, Manager
Wyoming Union, 1-800-370-2676, (307) 766-3264,
TTY: (307) 766-3267
Web site: www.uwyostore.com; www.facebook.com/uwyostore

The University Store is a self-supporting university department founded in 1921. It provides students, faculty, staff, and campus visitors with a variety of products and services. In order to fulfill its primary mission, the store stocks new and used textbooks, textbook rentals, e-textbooks, general books, school supplies, office products, educationally priced computer software, fine art supplies and electronics. The University Store is an authorized Lenovo distributor and an Apple Authorized campus store offering a full line of Apple products and accessories. As a convenience, the store also stocks additional items such as gifts, insignia gifts and clothing, greeting cards, candy and sundries. Services the store

provides include prepaid textbook reservations, bookbinding, special order book service, cap and gown rental, used book buyback, and postage stamps, as well as UPS, FAX and Federal Express.

The University Store is located on the main level of the Wyoming Union. Hours of operation during the academic year are: 7:30 a.m. to 5:00 p.m., Monday through Friday; TBA Saturday.

Music

Ben Markley, Department Head
2049 Buchanan Center for the Performing Arts, (307) 766-5242
Web site: www.uwyo.edu/music

The Department of Music offers many opportunities for students to participate in musical activities, as well as, to hear concerts by faculty artists, student ensembles and visiting artists. All qualified students within the university, no matter their major, are invited to participate for credit in any of the following: Marching Band, Symphonic Band, Wind Ensemble, Symphony Orchestra, Chamber Orchestra, Collegiate Chorale, Jazz Ensemble, Bel Canto, Singing Statesmen, Civic Chorus, and the many smaller ensembles such as string ensembles, brass ensembles, percussion ensemble, and various chamber groups. Note: some ensembles are by audition only. Private lessons on any instrument and voice are available at a fee to all interested students.

Summer offerings may include lessons, workshops, seminars, and regular courses. A summer music camp for students in grades 7 through 12 is also offered which includes band, choral, orchestral and keyboard experiences culminating in gala concerts. For further information, please write to the Department of Music, Dept. 3037, 1000 E. University Ave., Laramie, WY 82071 or musicdpt@uwyo.edu.

Theatre and Dance

Christie Zimmerman, Department Head
2099 Buchanan Center for the Performing Arts, (307) 766-5100

Theatre and Dance at the University of Wyoming offers students an excellent opportunity to participate in all aspects of theatre and dance arts. Auditions for productions are open to all qualified students within the university regardless of major or college. The production program provides opportunities for students to participate in technical theatre stage crews, set construction, costuming, lighting and sound. There are also opportunities to perform dance, drama, musicals and operas. Playwriting, screen writing, directing and choreography are available through upper-division courses. The BCPA contains a proscenium theatre, an experimental theatre, a thrust theatre, an acting for the camera studio and two dance studios, plus full support facilities for scene and costume construction. Full-time university students may purchase tickets through the Fine Arts Ticket Office at a greatly reduced price.

University Police Department

Mike Samp, Chief of Police
1426 E.Flint, (307) 766-5179
Web site: www.uwyo.edu/UWPD

The University Police Department is responsible for crime prevention, public safety, and law enforcement in the UW community. The department is staffed by 15 certified peace officers, five security guards, and eight full-time staff members. All officers are fully trained and have arrest authority. The department operates 24 hours per day, 365 days a year. To keep members of the UW community aware of police activity on campus, the department maintains a chronological log of all incidents reported to the department. This log is open for public inspection through the UWPD web site. University crime reports are also included annually in the United States Department of Justice publication,

Crime in the United States. Crime statistics, as well as other public safety information, are included in the Annual Security/Clery Report, which is available online. Department personnel present public safety programs upon request to any group or organization. Further information is available through the UWPD World Wide Web site.

Bicycle Regulations The University of Wyoming Bicycle Program was developed to promote an environment in which bicycles, pedestrians, and motor vehicles can safely co-exist. Persons riding bicycles are asked to familiarize themselves with the regulations and bike paths described in the pamphlet *Safe Cycling at UW*, which is available on the University Police Department web site. All bicycles must be registered.

University of Wyoming Alumni Association

Jack Tennant, Executive Director
222 South 22nd Street, (307) 766-4166
Web site: www.uwyo.edu/alumni

The University of Wyoming Alumni Association has served the university and alumni since the association was first organized in 1895. Our purpose is to provide the pathways to share the legacy, spirit and pride of UW worldwide. The primary role of the UWAA is to connect and reconnect alumni to the institution and each other through effective communi¬cation and meaningful engagement. The Alumni Association creates partnerships that advance UW and enrich the lives of students and alumni worldwide.

The Alumni Association currently serves over 131,000 former students of the University of Wyoming. Daily operations include high performing programs which include the admitted student writing project, employer engagement through full time job opportunities and internships, Cowboy 2 Cowboy Informational interviews, chapter and network gatherings, campus partnerships and donor cultivation and stewardship. The scholarship program services Wyoming and out-of-state high school seniors, undergraduate and graduate students, non-traditional students, Wyoming community college transfer students, US Veterans, and multicultural and Native American students with a commitment of over $187,000 annually.

The UWAA sponsors the UW Homecoming Parade and senior send-off.

The Alumni Association is located in the Alumni Center at the Marian H. Rochelle Gateway Center.

Cowboy Parents

Division of Student Affairs
408 Old Main, (307) 766-5123
Web Site: www.uwyo.edu/cowboyparents

Cowboy Parents is an organization that provides parents and families with their own University of Wyoming connection serving as a conduit for information and assistance. Cowboy Parents offers opportunities for families to get involved with the goal of promoting student success while also providing the institution with a unique perspective from parents and families. Cowboy Parents provides email updates, frequent and timely publications, volunteer opportunities, and much more.

University of Wyoming Extension

Kelly K.Crane, Associate Dean, Director
103 Agriculture Building, (307) 766-5124

The 1914 Smith-Lever Act created the University of Wyoming Extension, stating that its purpose was to "provide instruction and practical demonstrations in agriculture, home economics and related subjects." The University of Wyoming Extension is part of a national educational network which establishes partnerships with the United States Department of Agriculture, the state of Wyoming, the University of Wyoming, and county and tribal governments. UW Extension maintains offices in 27 Wyoming communities.

The mission of the University of Wyoming Extension is to provide lifelong learning opportunities for the people of Wyoming and empower them to make choices that enhance their quality of life. To accomplish its mission, the UW Extension continually updates its programs to meet the changing priorities, organizational structures and external relationships of Wyoming and its citizens. It is a dynamic organization pledged to providing educational programs which enable Wyoming citizens to improve their lives and communities through partnerships that put experience and research knowledge to work. The UW Extension delivers university research-based knowledge to Wyoming consumers through the broad program areas of Ag and Hort, 4-H Youth Development, Nutrition and Food Safety, Rangeland, and Community Development Education. Programs include a wide range of topic areas, including food and nutrition, water quality, wildlife, crop production, resource management, and energy related issues.

UW Extension can be accessed on campus through its administrative offices in the College of Agriculture and Natural Resources. In the state, UW Extension offices are found in each county and serve as resources to the county, while also representing a major connection between the university and the people of Wyoming.

Office of Distance Education

Web site: www.uwyo.edu/distance

For over a century UW has embraced the land grant mission by sending its faculty across the state to meet with citizens, students, teachers, business owners, ranchers, and farmers to help them learn. Currently and in partnership with the university's colleges and departments, UW extends the university learning experience to students across the state, region and nation by offering over 40 academic programs at the certificate, endorsement, bachelor, master, and doctorate award level. Career credentials are also available, mostly concentrated for K-12 educators. The programs feature two different delivery methods both requiring high speed Internet connectivity. Web conferencing courses are "real time" interactive courses that meet regularly throughout the semester. Courses can be delivered to your mobile devices or computers if you have a webcam and a microphone. Fully online courses are available anywhere and at any time. These courses are delivered via WyoCourses and may also use additional online communication and collaborative tools.

Special Programs and Facilities for Research and Study

- The Libraries
- Library Faculty:
- Centennial Complex
- American Heritage Center
- American Heritage Center Faculty:
- Art Museum

- Art Museum Faculty
- Anthropology Museum
- Division of Information Technology
- Geological Museum
- William D. Ruckelshaus Institute of Environment and Natural Resources
- School of Computing
- Wyoming Geographic Information Science Center
- Statistical Consulting Center
- Wyoming Survey & Analysis Center
- UW National Park Service Research Center
- Red Buttes Environmental Biology Laboratory
- Rocky Mountain Herbarium
- Vertebrate Museum
- Wilhelm G. Solheim Mycological Herbarium
- Louis O. and Terua P. Williams Conservatory
- Wyoming Cooperative Fish & Wildlife Research Unit
- Wyoming State Veterinary Laboratory

The Libraries

Ivan Gaetz, Dean
William Robertson Coe Library, (307) 766-3279

The University Libraries include the William Robertson Coe Library, the Emmett Chisum Special Collection; the Library Annex, located in the basement of the Biological Science Building, housing government publications and older journals; the Brinkerhoff Earth Resources Information Center, located in the S.H. Knight Geology Building; the Learning Resource Center, located in the Education Building; the Rocky Mountain Herbarium Research Collection, located in the Aven Nelson Building; and the National Park Service Research Center collection in Jackson, Wyoming. UW-Casper is served by the Casper College Goodstein Foundation Library.

The libraries' cataloged collections total over 1.6 million volumes, with over 33,000 volumes added annually. 14,000 active periodical and serial titles are supplementedwith accessto over 90,000 unique electronic journals and over 800,000 ebooks. In addition, the libraries provide extensive microforms collections and a library of over 175,000 maps, and serve as a depository for United States government publications.

Through participation in the Wyoming Libraries Database (WYLD), Colorado Alliance of Research Libraries ("Alliance"), the Greater Western Library Alliance (GWLA), Hathi Trust, OCLC, the Network of National Libraries of Medicine, on-line information retrieval systems, and the interlibrary loan network, access is provided to other library resources from throughout the nation and the world.

The College of Law maintains a separate Law Library.

Library Faculty:

STEPHEN C. BOSS, B.M. Simpson College 1983; B.A. 1984; M.L.S. University of Denver 1985; M.A. 1986; Associate Librarian, University Libraries 2008, 2002.

DAVID BROWN, B.A. University of Redlands 2002; M.A. Columbia University 2003, 2006; Ed.D. 2007; M.L.I.S. Wayne State University 2015; Assistant Librarian, University Libraries 2020.

KAIJSA CALKINS, B.A. University of Washington, Bothell 2001; M.L.I.S. University of Washington, Seattle 2004; Associate Librarian, University Libraries 2012, 2006.

IVAN GAETZ, B.A. University of Alberta 1975; M. Div. University of Saskatchewan 1978; Th. M. Regis College, University of Toronto 1985; M.L.S. University of Alberta 1988; M. Ed. 1991; Ph.D. University of British Columbia 2004; Dean, University Libraries 2016.

JANICE GROVER, B.A. University of Wyoming 2005; M.A. 2017; M.L.S. Emporia State University 2009; Associate Librarian 2021.

CYNTHIA D. HUGHES, B.A. The College of William and Mary 1994; M.L.I.S. University of Illinois at Urbana-Champaign 1996; Associate Librarian, University Libraries 2020, 2014.

CHAD E. HUTCHENS, B.A. University of Colorado, Boulder 1999; M.A. 2001; M.L.I.S. University of Texas at Austin 2004; Associate Librarian, University Libraries 2014, 2008.

NELIA KOONTZ, B.A. University of Tennessee, Knoxville, 2020; M.I.S. University of Tennessee, Knoxville, 2022; Assistant Librarian, University Libraries, 2023.

DAVID D. KRUGER, B.S. South Dakota State University 1991; B.S.Ed. Minot State University 1994; M.A. Kansas State University 1996; M.L.S. University of Missouri 1998; Librarian, University Libraries 2016, 1998.

CASSANDRA KVENILD, B.A. University of Wyoming 1996; M.L.I.S. University of Washington, Seattle 2000; Librarian, University Libraries 2018, 2008.

PAULA MARTIN, B.A. Truman State University 1994; M.L.I.S. University of Missouri 2007; Associate Librarian, University Libraries 2020.

DEBORAH McCARTHY, B.A. Lycoming College 1983; M.L.S. Texas Woman's University 1989; M.B.A. New Mexico State University 2003; Associate Librarian 2009, 2004.

SAMANTHA PETER, B.A. University of Wyoming 2016; M.S.I.S. University of Texas at Austin 2018; Assistant Librarian, University Libraries 2018.

JESSICA RARDIN, B.A. Beloit College 2013; M.L.I.S. University of Wisconsin-Milwaukee 2020; Assistant Librarian 2021.

BRYAN RICUPERO, B.A. Boston University 1996; M.L.I.S. University of Kentucky 2012; Associate Librarian, University Libraries 2020, 2014.

LAWRENCE O. SCHMIDT, B.S. Montana State University 1987; M.S. 1995; M.L.S. Emporia State University 2002; Librarian, University Libraries 2020, 2008, 2002.

KATHRYN SENN B.A. Eastern Michigan University 2019; M.S.I.S. University of Texas 2022; Assistant Librarian, University Libraries 2022.

DENNIS SHANNON, B.A. Purchase College, SUNY, 2012; M.I. Rutgers, the State University of New Jersey 2019; Assistant Librarian, University Libraries, 2021.

KATHARINE TEKYL, B.A. Illinois Wesleyan University 2019; M.A. Indiana University-Bloomington 2022; M.L.S.

Centennial Complex

Designed by internationally prominent architect Antoine Predock to represent both an "archival mountain" and a town at the foot of the mountain, this dramatic building contains the collections of the American Heritage Center and the UW Art Museum. It is located at 2111 Willett Drive, just north of the Arena Auditorium and War Memorial Stadium.

American Heritage Center

Paul Flesher, Director
(307) 766-4114
Web site: http://ahc.uwyo.edu

The American Heritage Center (AHC) isthe university's repository of manuscripts collections, itsrare bookslibrary, and its official archives. The Center is one of the largest and most consulted non-governmental repositoriesin the United States. In 2010 it wasrecognized as one of the most distinguished archives in the nation when it received the Society of American Archivists' Distinguished Service Award.

The Center placesservice to UW undergraduates, graduate students, and faculty as its highest priority. However, because the AHC's collections are known worldwide, UW undergraduates using the Center's holdings might be working alongside scholars from Japan or Nigeria or the producers of PBS's *American Experience*.

The AHC's collections are of interest to far more than history majors. Each year Center archivists work with students in more than two dozen disciplines at UW: Art, African-American Studies, Agricultural Education, American Indian Studies, American Studies, Anthropology, Botany, Business Administration, Civil Engineering, Creative Writing, Energy Law, Geography and Recreation, History,International Studies, Lab School, English, Music, Nursing, Pharmacy, Political Science, Religious Studies, Secondary Education, Sociology, University Studies, Women's Studies, Zoology. The AHC also works with a dozen public school classes annually.

- Like most major university repositories, the AHC collects both regionally and nationally in select areas. Majorsubject concentrations of the 75,000 cubic foot manuscript collections include Wyoming and the American West, the mining and petroleum industries, Western politics and leadership, conservation, journalism, transportation, and 20th century entertainment such as popular music, radio, television, and film.
- The Toppan Library is the University's rare book center. More than 50,000 items range from medieval illuminated manuscripts to the 21st century. Subject strengths include the American West, British and American literature, early exploration of North America, religion, hunting and fishing, natural history, women authors, and the book arts. Unlike most rare book libraries, it is an active teaching site and welcomes both undergraduates and the public.

The AHC website has earned several national awards. Our digital collections contain 100,000+ photos and historical documents: http://digitalcollections.uwyo.edu.

The faculty archivists of the AHC are state, regional, national, and international leaders in their fields, speaking and publishing on historical, archival, and library topics. Several teach national workshops. The Center's reference archivists are leaders in their profession in undergraduate outreach and instruction. Students and faculty are encouraged to visit and make use of the collections - no appointments are necessary. The American Heritage Center hours are: Reading Room (M, 10am-7pm; Tu-F, 8am-5pm) / Toppan Library (M-F, 8:30am-5pm) / Building (M-F, 8am-5pm).

American Heritage Center Faculty:

SARA C. DAVIS, B.A. University of Wyoming 2005; 2012; M.S.L.S. Simmons College 2016; Associate Archivist 2018.

RACHEL GATTERMEYER, B.A. The Ohio State University 2013; M.L.I.S. University of Illinois Urbana-Champaign 2015; Assistant Archivist 2018.

GINNY KILANDER, B.A.Indiana University 1992; M.A. University of Wyoming 1998; Archivist 2017, 1999.

MOLLY MARCUSSE, B.A. University of Michigan 2010; M.L.S. University of Maryland 2013; Assistant Archivist 2015.

LESLIE C. WAGGENER, B.A. University of Texas, Austin 1995; M.L.I.S. 2000; Archivist 2018, 2000.

D. CLAUDIA THOMPSON, B.A. Metropolitan State College, Denver 1977; M.A. University of Denver 1978; Archivist 2016, 1995.

JOHN WAGGENER, B.A. University of Wyoming 1994; M.A. 2001; Archivist 2018, 2000.

Art Museum

Nicole M. Crawford, Director
(307) 766-6622
Web site: http://www.uwyo.edu/artmuseum

Located on the eastside of campusin the award-winning Centennial Complex, the Art Museum was established to "bring the world of art to Wyoming." The Art Museum shares in the transformative power of art through exhibiting, preserving, and interpreting visual culture from around the world. As an integral part of the University of Wyoming, it fosters a deeper connection with humanity and creativity that envisions new futures by engaging academic, local, state, national, and global communities

The Art Museum's permanent collection comprises over 11,000 objects, including European and American paintings, prints, sculpture and drawings, special collections of 18th and 19th century Japanese Ukiyo-e prints, 15th through 19th century Persian and Indian miniature paintings, 20th century Haitian art, 20th century Japanese netsuke, 20th century and contemporary photography, and Rapa Nui, Papua New Guinea, African, and Native American artifacts. Exhibitions are curated from the permanent collection, contemporary art by regional, national and international artists, and art from the American West to support the academic mission of the University of Wyoming, provide original resource material for students of all ages, and enhance the cultural life of Wyoming's citizens and visitors. The Art Museum provides extensive education programs for all ages, including preschool through 12th grade, university community and life-long learners. Museum experiences can be scheduled for all ages and are based on the model of observe, question, explore, create, and reflect. These experiences are active learning and often involved time in the galleries and studios planned and facilitated by a trained educator or curator. Each visit is tailored to group needs and can be tied to curriculum goals or group outcomes.

The museum's statewide outreach programs include the Ann Simpson Artmobile and the Regional Touring Exhibition Service, which provide art-filled and creative opportunities to Wyoming people in even the most remote communities and underserved situations. The Artmobile brings original art and programming delivered by a professionally trained museum educator to schools, community centers, libraries, art spaces and adult-living centers. For a small one-way shipping fee, the Regional Touring Exhibition Service circulates exhibitions of original art from the permanent collection to venues across the state. Curriculum guides and interpretive materials are included.

The Art Museum is free to all and is open Tuesday through Saturday, 10:00 a.m.-5:00 p.m. Hours are extended to include Thursdays until 7 pm during the academic year. Additional information on the Art Museum is available on its webpage, www.uwyo.edu/artmuseum; Facebook (University of Wyoming Art Museum), Instagram (uwyoartmuseum) and YouTube (uwartmuseum).

Art Museum Faculty

Museum Faculty

WILLIAM BOWLING, B.S. Southern Illinois University 2005; M.A. New York University, 2007; Education and Public Programs Coordinator/Assistant Curator 2022

EMILY CONNER, B.A. Shepherd University 2011; M.A. The Cooperstown Graduate Program at SUNY Oneonta 2016; Master Teacher/Assistant Curator of Education, 2021.

NICOLE CRAWFORD, B.A. University of Nebraska 1997; M.A. 2005; Chief Curator/Associate Lecturer 2017, 2009.

SARITA TALUSANI KELLER, B.F.A. University of Houston 1997; M.Ed. 2002; Ph.D. University of North Texas 2014; Artmobile Educator/Assistant Curator 2018.

MICHELLE SUNSET, B.A. University of North Florida 2012; M.A. Florida State University 2014; M.A. Florida State University 2021; Curator/Assistant Curator 2020.

Anthropology Museum

The museum offers exhibits related to the four subfields of anthropology: archaeology, biological, linguistic, and cultural. The main gallery follows the "Human Odyssey," from the evolution of humans in Africa several million years ago to the spread of our species throughout the world, and on to the Late Pleistocene entry into the Americas. The Colby Mammoth Site, the Vore buffalo jump and other Wyoming archaeology sites are featured, with much of the museum devoted to a celebration of the rich Native American heritage of the Plains and Rocky Mountains. Other displays featuring archaeological research and world cultural diversity can be found in hallway displays throughout the building.

The Anthropology Museum is open 8 a.m. to 5 p.m. Monday through Friday during the academic year. During the summer, hours are from 7:30 a.m. to 4:30 p.m. Monday through Friday.

Division of Information Technology

Robert Aylward, Vice President for Information Technology
IT Center, Room 372, (307) 766-4860
Web site: www.uwyo.edu/InfoTech

The Division of Information Technology provides students, faculty and staff with technology infrastructure and support services- -computing systems, networking, technical support for systems and applications, computer support, academic and classroom technology support, training, telecommunications services, and research computing support including high performance computing. Use of these University computing and data facilitiesis governed by UW Regulation 3-690, Ethical Use of Computers and Data Communications Facilities.

The office of the Vice President of the Division of Information Technology is located in room 372 of the Information Technology Center and is open during normal business hours. Those in need of assistance are encouraged to call the Client Support Help Desk at 766- 4357, option 1.

IT Service Center: provides technology support during normal business hours. The fastest way to contact the UWIT Service Center is to browse our Service Catalog and Knowledge Base at uwit.uwyo.edu. Our Knowledge Base contains self-help documents and videos, as well as information on IT services we provide to our campus community. Other options to contact the help desk are to email userhelp@uwyo.edu or call 307-766-HELP (4357), option 1. You can also

chat with the Service Center atsupport.uwyo.edu.IT Service Center hours are posted at www.uwyo.edu/InfoTech/services/helpdesk/.

IT Walk-In Service Center and Resnet: provides help to students, faculty, and staff with personal computers and mobile devices. The Walk-In Service Center is located in the ITC building room 160 and is typically open Monday - Friday, 9am - 4pm with reduced hours during breaks and the summer months. The Walk-In Service Center is closed during all University holidays.

One of the primary goals of the Service Center while helping with personal computing devices is to teach customers. Therefore, Information Technology does not allow devices to be dropped off to be repaired. IT requests its customers to take an active role and remain with their device while any repair work is underway. The IT Walk-In Service Center also provides one-on-one consulting if help is needed in purchasing a new personal computer or mobile device. More information on the Walk-In Service Center can be found at www.uwyo.edu/resnet.

Telecom Services: provides a range of telecommunications services including phone and data connections, long distance and voice mail. Contact Information Technology's Telecom Help Desk by calling 766-HELP (4357), option 2, or email teledesk@uwyo.edu to request these services.

Internet and Network Access: an extensive campus-wide data network provides connectivity to the Internet in all occupied campus buildings, computer labs across campus, and university housing. Wireless Ethernet (Wi-Fi) is available in most campus locations. Students, faculty, and staff should connect to the UWyo wireless network, since it is a faster, more secure connection than UWguest. More information can be found at www.uwyo.edu/askit or call the IT Help Desk at 766-HELP (4357), option 1.

Computer Labs: are located throughout campus for students, faculty, and staff use. The computers labs contain computers with a wide variety of software and computing equipment. Some labs are staffed by student lab assistants who are able to answer questions. Computer labs in Coe Library and the Information Technology Center are open and staffed 24 hours during the normal academic year. The UWStudent Remote Lab System is a collection of lab machines that are designed to be accessed from off campus networks. The remote lab is configured similar to the UWStudent labs found on campus.

More information, including a link to the UW Student Remote Lab System, a complete listing of labs, lab schedules, and software policies, is available online at microlab.uwyo.edu. For questions and assistance, please e-mail userhelp@uwyo.edu or call the Help Desk at 766-HELP (4357), option 1.

Classroom Technology Support (CTS): provides support and maintenance for audio visual and other technology used in classrooms and technology spaces across campus. For immediate assistance when teaching in a general pool classroom, pick up the phone; the phone will automatically connect to the UW IT Help Desk at the top of the queue. If the issue cannot be resolved over the phone, someone will arrive promptly to provide assistance. If you are in a room other than a general pool classroom, call the help desk at 766-4357 or press the help icon on the lectern touch panel. Please let them know if you require immediate help or if you do not want your classinterrupted. Workshops for classroom technologies are available by request. Call 766-2872 for more information. Please go to www.uwyo.edu/centralscheduling/classroom-building/training.html for further details. Lecture capture technology (Wyocast) is available in several classrooms on campus. For more information on this popular technology please visit http://www.uwyo.edu/infotech/services/multimedia/wyocast/.

Data Center Operations (DC Ops): manages and operates the 6,000 ft^2 University Data Center, located in the Information Technology Center. The Data Center provides a state of the art, highly redundant infrastructure space for university IT equipment. University departments may apply for co-location space in the Data Center to house production computing equipment. For more information on co-location, contact Data Center Operations at operate-it@uwyo.edu.

Computer Maintenance: provides repair and general hardware support for PCs, laser printers, and other equipment as well as manufacturer warranty repair support for most Apple, HP, Dell, and Lenovo products. Computer repair requests may be submitted by filling out the web form at

uwyo.teamdynamix.com/TDClient/Requests/ServiceCatalog?CategoryID=3285 or by contacting the Help Desk at 766-HELP (4357), option 1.

Software Sales: provides Adobe, Microsoft and statisticalsoftware to eligible faculty,staff, and students. For more information on available software and licensing information, please visit uwyo.teamdynamix.com/TDClient/Requests/ServiceCatalog?CategoryID=3091.

Geological Museum

Hours: Mon.-Sat. (10:00am-4:00pm), closed holidays
(307) 766-2646
E-mail: geolmus@uwyo.edu
Web site: www.uwyo.edu/geomuseum

The Geological Museum, in the east wing of the S.H. Knight Geology Building, exhibits the story of ancient Wyoming. Highlight exhibits include: a fully mounted skeleton of the well-known dinosaur *Apatosaurus (Brontosaurus)*; a mounted skeletal cast of the world-renowned "Big Al" the *Allosaurus*; a 50-million-year-old garfish from Wyoming's Green River Formation (one of the largest complete freshwater fossil fish on display in the world); casts of skulls of Wyoming's state dinosaur, *Triceratops*; and its contemporary, *Tyrannosaurus rex*; mounted skeletons of Miocene rhinos and camels; an interactive augmented reality sandbox, our fossil prep-lab, and a fluorescent mineral room, featuring specimens from Wyoming and the world. The museum maintains important display collections (particularly vertebrate and invertebrate fossils) that are available for study by students, as well as scientists from other institutions. The museum provides unique opportunities for undergraduate and graduate students to pursue research and display projects in Wyoming paleontology, and for students minoring in museum studies to gain valuable experience with natural history museums and collections.

William D. Ruckelshaus Institute of Environment and Natural Resources

Director, Dr. Melanie Armstrong
Bim Kendall House
1000 E University Ave, Dept 3971
Laramie, Wyoming 82071
Phone: (307) 766-5080, Fax: (307) 766-5099
Email: ruckelshaus@uwyo.edu
Web site: www.uwyo.edu/haub/ruckelshaus-institute

The William D. Ruckelshaus Institute supports effective environment and natural resource decision making through compelling communication, stakeholder convening, and collaborative decision-making approaches. The Ruckelshaus Institute is housed within the Haub School of Environment and Natural Resources at the University of Wyoming, whose mission is to advance understanding and resolution of complex environmental and natural resource challenges.

Communication and Storytelling: The Ruckelshaus Institute publishes effective and meaningful science and policy reports, articles, and other public-facing materials. The institute's annual magazine, Western Confluence, communicates research on natural resource questions and stories of challenges and successes to environment and natural resource stakeholders. The institute produces reports, press releases, films, research briefs, and more to engage the public on complex natural resource issues.

Stakeholder Convening: The Ruckelshaus Institute convenes conferences and meetings of stakeholder groups on critical natural resource issues. These include our emerging issue initiative forums, statewide gatherings of experts,

professionals, and stakeholders to discuss and lay groundwork to move forward on addressing emerging ENR challenges.

Collaborative Solutions: The Ruckelshaus Institute supports sound, inclusive approaches to environmental conflict resolution by facilitating collaborative processes, offering trainings in collaborative decision making for natural resource professionals, and teaching courses in negotiation theory and practice for UW students. The Collaboration Program in Natural Resources is a yearlong professional development series to train natural resource professionals in negotiation, facilitation, and collaborative processes.

School of Computing

231 Bureau of Mines
Phone: (307)766-5299 Email: uwyo-soc@uwyo.edu

Gabrielle Allen, Director
Website: www.uwyo.edu/soc

The School of Computing is a hub of innovation and knowledge exchange for computing and digital skills. The new school provides University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the computational tools, skills and approaches to drive transformation and innovation in the state. The School of Computing also champions broader efforts to make the University of Wyoming more digital, inclusive, interdisciplinary, and entrepreneurial through computing partnerships across Wyoming.

Background:

The School of Computing at the University of Wyoming was approved by the Board of Trustees in January 2022 after a year of planning that involved input and discussions among broad stakeholders. In March 2022, Dr. Gabrielle Allen was appointed as the inaugural Director, and in May 2022 the School was provided with initial office space in the Bureau of Mines.

Although the school is initially administratively incubated in the College of Engineering and Physical Sciences it will become an independent academic unit within the next few years.

The School of Computing has a mission to collaborate with and impact all units and disciplines at the University of Wyoming and is developing partnerships both internal and external to the University. Example partnerships include the Science Initiative, Tier 1 Engineering Initiative, the Center for Entrepreneurship and Innovation, K-12 schools, community colleges, industry, community partners, national laboratories, and NCAR. Other important partners include the Wyoming Innovation Partnership, and units providing computing services and infrastructure such as ARCC, 3D visualization center, WyGISC, NSF EPSCOR, NIH INBRE.

Vision:

Create a unique and inspirational School of Computing with national impact and global reach, providing Wyoming and the world with agile and ethical computing professionals, empowered to address societal challenges that are inherently interdisciplinary.

Mission:

Position our land grant institution as a national leader in computational and digital research, education, and engagement; a computational hub for students, faculty, staff, community, and our industry/state/academic partners; a steward, supporter, and developer of digital skills and computational thinking for all.

Wyoming Geographic Information Science Center

Jeff Hamerlinck, Director
Agriculture C, Room 337 (307) 766-2532
E-mail: wygisc@uwyo.edu
Web site: www.uwyo.edu/wygisc

The Wyoming Geographic Information Science Center (WyGISC) has a mission to advance the understanding and application of geographic information science through basic and applied research, education and training, information and technology transfer, and by promoting utilization of geospatial technologies for science, management, and decision making within the University and throughout the state and region. Examples of geospatial technologies include geographic information systems, geographic cartography and visualization, Global Positioning System-based mapping, and image processing of remotely-sensed Earth resource data derived from aircraft, satellites or uncrewed aerial systems. Broad applications areas exist in both environmental and social sciences, as well as agriculture, engineering and business.

Established in 2001, WyGISC operates under the School of Computing and in close coordination with the Office of Research and Economic Development, providing assistance to all units on campus and to numerous private, local, state, and federal entities in Wyoming and the Rocky Mountain region. Services include research collaboration, technical expertise, geospatial technology short course training, and geospatial data dissemination. WyGISC encourages undergraduate and graduate student participation in its research projects and has sponsored students from the McNair Scholars Program and other student research apprentice programs, as well as graduate students affiliated with participating departments and research centers. Part-time employment and internship opportunities are often available. Inquiries may be directed to the center using the contact information provided above. The GIST undergraduate and gradaute certificates and degrees were academic programs under WyGISC from 2019 - 2023. These academic credentials are now programs in the School of Computing.

Statistical Consulting Center

Ken Gerow, Director
337 Ross Hall, (307) 766-6600

The Statistical Consulting Center, a unit of the Department of Statistics, exists to coordinate the statistical knowledge and skills available within the department with the subject-matter expertise of other scientists throughout the university, and to bring that combination to bear on applied research problems in diverse areas. The center can provide assistance in research design,sampling, data collection, and/or data analysis for the full range of research needs. The initial consultation is free. Thereafter, a variety of mechanisms are available to acknowledge the contributions of statistical consulting to a given research project, including co-authorship on a scholarly publication, membership on a thesis or dissertation committee, direct compensation to the consultant at private consulting rates, subcontracting with the center on a grant project, etc. On occasion, the center can also offer paid employment and internships to graduate students who have appropriate training and skills to assist other researchers. For further information about any of the services available through the Statistical Consulting Center, please contact the center via the contact information above.

Wyoming Survey & Analysis Center

Tiffany Comer Cook, Interim Executive Director
UW Office Annex, Second Floor
Dept. 3925; 1000 E. University Ave.
Laramie, Wyoming 82071
Phone: (307) 766-2189, Fax: (307)766-2759
Email: wysac@uwyo.edu
Web site: www.uwyo.edu/wysac

The Wyoming Survey & Analysis Center at the University of Wyoming seeks to provide clear, accurate, and useful information to decision-makersthrough applied socialscience research,scientific polling, information technology services, and rigorous program evaluation. Without bias and with the highest standards of validity, WYSAC collects, manages, analyzes, and reports data for public and private sectors in Wyoming and throughout the nation.

WYSAC has four research areas. By Executive Order, WYSAC serves as Wyoming's statistical analysis center for criminal justice research. The Center for Criminal Justice Research (CJR) at WYSAC collects and analyzes criminal justice data to enable effective planning, practice, and policy development for the State of Wyoming. The CJR is also active nationally as a member of the Justice Research and Statistics Association.

The Center for Information Technology Services specializes in web-based applications, database management, and website development. We create case management programs, desktop applications for data management, prevention and evaluation data entry systems, and interactive online data visualizations.

The Center for Research and Evaluation conductsstudiesto inform programming, funding, and policy decisions, especially in the areas of public health, substance abuse prevention, and education. We collect qualitative and quantitative data, compile administrative records, conduct statistical analyses, interpret findings, write reports and fact sheets, conduct needs assessments, create evaluation plans and logic models, and write grant applications.

The Survey Research Center (SRC) specializes in survey design, administration, sampling, and data analysis. The SRC conducts phone, mail, internet, and mixed-mode surveys using current technologies and WYSAC's in-house call center. The SRC has expertise in weighting survey data, conducting statistical analysis of the collected data, and creating technical reports and PowerPoint presentations of the results.

WYSAC offers paid employment for students who are looking for experience in social science research. Contact us for additional information, or search for current job openings on UW's website.

UW National Park Service Research Center

(307) 766-4227
Web site: www.uwyo.edu/uwnps

The research center operates in a field station at the historic AMK Ranch in Grand Teton National Park, located 65 km north of Jackson, Wyoming. The field station provides scientists abundant research opportunities in the diverse terrestrial and aquatic environments of Grand Teton and Yellowstone National Parks as well as the surrounding National Forests and Wilderness areas that make up the entire Greater Yellowstone area (GYA). The station has housing for up to 60 researchers and provides terrestrial and aquatic laboratories, boats, field equipment, conference rooms, internet service and a library, all on site. A small grants program provides funding yearly for individual proposals up to $5,000 as well as scholarship and intern funding for projects conducted in the GYA. Field courses and conference are accommodated in the spring and fall seasons. A weekly seminar series with a barbecue dinner is presented throughout the summer.

Inquiries concerning the UW-NPS Research Center program should be addressed to: Director, University of Wyoming-National Park Service Research Center, Dept. 3166, 1000 E. University Ave., Laramie, WY 82071 or emailed to uwnps@uwyo.edu.

Red Buttes Environmental Biology Laboratory

Within a few miles of Laramie, the Department of Zoology and Physiology operatesthe Red Buttes Environmental Biology Laboratory, a 9,600-square-foot facility equipped to handle both aquatic and terrestrial vertebrates. An aquatic ecology and toxicology laboratory, uniquely designed to accommodate a wide range of test conditions of water flow, temperature and composition, is available within the facility. Animal holding and surgical rooms are specifically

constructed to accommodate experimentation on small (e.g. mice, squirrels), medium (e.g. coyote, badger) and large (e.g. elk, bighorn sheep) mammals. Outdoor corrals and fish runs are also available on the 400-acre site.

Inquiries concerning the Red Buttes Environmental Biology Laboratory should be addressed to the Department Head, Department of Zoology and Physiology, Dept. 3166, 1000 E. University Ave., Laramie, WY 82071, or (307) 766-3333.

Rocky Mountain Herbarium

Located in the Aven Nelson Building, the Rocky Mountain Herbarium and the associated U.S. Forest Service National Herbarium contain more than 1,250,000 plant specimens. The primary functions of the herbarium are to (1) serve as a source of information on the flora of the Rocky Mountain region in general and Wyoming in particular; (2) aid in the identification of plants submitted by ranchers, farmers, county agents, and state and federal agencies throughout the region; and (3)serve as a source of research and teaching material in systematic and ecological botany. Thousands of specimens are loaned each year to recognized institutions throughout the United States where research requires a knowledge of western plants. The web site (www.rmh.uwyo.edu) contains data on more than 700,000 specimens as well asthousands of specimen images and interactive distribution maps.

Open to university students and other qualified researchers, the herbarium invites queries regarding the identification of plants. Those persons wishing assistance in the identification of a plant should send two specimens to the herbarium. Inquiries should be addressed to The Curator, Rocky Mountain Herbarium, Department of Botany, Dept. 3165, 1000 E. University Ave., Laramie, WY 82071.

University of Wyoming Museum of Vertebrates

(307) 766-6227 & (307) 766-6169
Email: ewommack@uwyo.edu & mcarling@uwyo.edu
Web site: www.uwymv.org

The mission of the University of Wyoming Museum of Vertebrates (UWYMV) is to document and understand regional and global biodiversity through acquisition and investigation of collections to advance academic knowledge and public appreciation of the natural world. While its holdings primarily contain vertebrates found in the Rocky Mountain Region, the museum also houses specimens from all across the world. Although the UWYMV has no formal exhibits and is not regularly open to the public, its collections are widely used by researchers, educators, and for outreach activities.

To learn more about the UWYMV, including how to access our collections or schedule a tour, please visit www.uwymv.org.

Collections Location: The UWYMV collections can be found on the ground floor of the Berry Biodiversity Conservation Center, rooms 133 and 119.

Wilhelm G. Solheim Mycological Herbarium

The Wilhelm G. Solheim Mycological Herbarium, housed on the third floor of the Aven Nelson Building, facilitates the study of symbiotic and biotrophic fungi. The herbarium contains approximately 50,000 specimens of fungi from around the world and the largest collection of fungi in the Rocky Mountain Region. These collections are available for

study by qualified students and researchers. Specimens may be borrowed by institutions without charge for a one-year period. Inquiries should be addressed to The Curator, Solheim Mycological Herbarium, Department of Botany, Dept. 3165, 1000 E. University Ave., Laramie, WY 82071.

Louis O. and Terua P. Williams Conservatory

Hours: Monday-Friday 10:00am-2:00pm, closed holidays
(307) 766-4336
Web site: www.uwyo.edu/conservatory
Email: conservatory@uwyo.edu

The Williams Conservatory is a year-round multipurpose facility that has promoted botanical research, education, and outreach since 1994. Located in the Aven Nelson building at the University of Wyoming, our greenhouse is home to over 600 tropical, neotropical, temperate, and arid species from around the world. Conservatory facilities are used by researchers, educators, students in both K-12 and post-secondary levels, artists, horticulture enthusiasts, and the general public. Walk-ins are welcome, or contact us in advance to schedule a guided tour.

Wyoming Cooperative Fish & Wildlife Research Unit

(307) 766-5415
Web site: www.coopunits.org/Wyoming
Email: wyo-coop@uwyo.edu

The Wyoming Cooperative Fish and Wildlife Research Unit is supported by the University of Wyoming, the Wyoming Game and Fish Department, the U.S. Geological Survey and the Wildlife Management Institute. The three permanent unit leaders serve as full faculty in the Department of Zoology and Physiology.

The Unit conductsresearch on many types of fish andwildlife issues. A primary emphasis is on evaluating the ecology and management of fish and wildlife in the northern Rocky Mountain region. Much of the Wyoming Game and Fish Department's field research is conducted through the Unit. Both students hired astechnicians as well as graduate assistants are involved in Unit research. Additional details of the Unit's research program can be found at www.wyocoopunit.org.

For furtherinformation contact the Wyoming Cooperative Research Unit, Dept. 3166, 1000 E. University Ave., Laramie, WY 82071, or wyo-coop@uwyo.edu.

Wyoming State Veterinary Laboratory

1174 Snowy Range Road, (307) 766-9925
E-mail: vetrec@uwyo.edu
Web site: wyovet.uwyo.edu

Located west of campus and operated by the Department of Veterinary Sciences, the Wyoming State Veterinary Laboratory (WSVL) is responsible for diagnosis and reporting of animal diseases. Areas of expertise include morphological and clinical pathology, bacteriology, virology, toxicology, parasitology, electron microscopy, molecular diagnostics, and serology.

Cooperative diagnostic and research activities are conducted with various state and federal agencies. The WSVL building also houses a UW classroom, laboratories for the Wyoming Game and Fish Department, and Wyoming Department of Agriculture Analytical Services Laboratory. Students are encouraged to conduct domestic and wildlife disease research in an interdisciplinary setting.

For further information contact WSVL, 1174 Snowy Range Road, Laramie, WY 82070.

Scholarships and Financial Aid

- Eligibility Requirements
- Enrollment Requirements
- Satisfactory Academic Progress (SAP)
- Financial Aid Federal Return of Funds Policy
- Funds Distribution
- National Guard Benefit

The Office of Scholarships and Financial Aid (OSFA) coordinates all student financial assistance available at UW. Available aid includes scholarships, grants (Hathaway Need, Federal Pell, Federal SEOG, TEACH, Iraq and Afghanistan Service Grant), loans (Federal Direct, Federal PLUS and private) and employment (Federal Work-Study).

OSFA will help all qualified applicants to secure aid, but resources are limited. Aid is offered first to those applicants whose materials are completed and received by February 1 prior to the academic year for which aid is sought. Federal Pell Grants and Federal Direct Loans are available to qualified applicants throughout the year.

Unless another deadline is specified, prospective students seeking scholarships should send an application for admission, the nonrefundable application fee and a copy of their current high school or college transcript to the UW Admissions Office by March 1. Students who have attended another college must have that college submit an academic transcript to the UW Admissions Office.

Students seeking federal aid or assistance based on their financial need must file a Free Application for Federal Student Aid (FAFSA). Applicants may do so at studentaid.gov. Allow one week for processing. UW recommends using IRS Data Retrieval when completing the FAFSA. Final responsibility for ensuring that all required documents are received in a timely manner rests with the applicant. The FAFSA will be available October 1 for completion.

Eligibility Requirements

To receive federal financial aid (such as Federal Pell, Federal SEOG and Federal TEACH, Iraq and Afghanistan Service grants, Federal Work Study, Federal Direct [subsidized or unsubsidized], and Federal Direct PLUS loans) you must meet the following conditions and provide supporting documentation when requested to do so: have a high school diploma or its equivalent, be enrolled or accepted for admission as a regular student at UW, not be concurrently enrolled in an elementary or a secondary school, be enrolled in a degree program, be a U.S. citizen or eligible non-citizen, have a demonstrated financial need if required, be prepared to prove attendance, maintain satisfactory academic progress (SAP), not be in default on a federal student loan or owe an overpayment of a federal grant at any institution (or, if so, have made satisfactory arrangements to repay or otherwise resolve the overpayment or default), not have borrowed in excess of the annual or aggregate loan limits of a federal loan program (loan borrowers only), agree to use funds received only for educational costs.

Enrollment Requirements

Students must attend classes to be eligible for federal financial aid or be prepared to pay all the money back. Most scholarships require the recipient to be enrolled full time in both fall and spring semesters, while completing a minimum of 24 credit hours by the end of spring semester. Hathaway Scholarships, Federal Pell Grants, and veteran's benefits may be pro-rated for part-time enrollment and Federal Direct Loans may only be borrowed by students enrolled for at least half time (a minimum of 6 hours for undergraduate and pharmacy students; a minimum of 4.5 hours for graduate and law students). Federal Pell Grants and Federal SEOG Grants are available to undergraduate students who have not completed the requirements for their first undergraduate degree. Classes for audit are not acceptable for any kind of financial aid. Generally, Federal aid is not available for continuous registration hours, or for audit hours. For details, contact the Office of Scholarships and Financial Aid.

Satisfactory Academic Progress (SAP)

The University of Wyoming's Office of Scholarships & Financial Aid is responsible for ensuring that all students receiving federal financial aid meet minimum standards.

If you are looking to appeal your "**Not Eligible**" SAP status, please read and understand the below policy. Once you have read and understood the policy, please complete the SAP Appeal and Academic Plan form. Please refer to our Frequently Asked SAP Questions page for more information regarding the appeal process.

Satisfactory Academic Progress is reviewed at the end of each semester (fall, spring, and summer) and the following three areas are measured:

1. **Institutional Cumulative Grade Point Average**
    - Undergraduate & Professional programs - 2.0
    - Graduate programs - 3.0
2. **Completion Percentage (Pace)**
   A student's earned hours must equal or exceed 67% of all cumulative attempted hours since beginning classes.
    - Courses that are Failed, Withdrawn, Unsatisfactory or Incomplete (no matter where they are taken) are considered attempted but not earned hours.
    - Audit, Correspondence, Credit by exam, Remedial and Enrichment courses do not count as attempted or earned.
    - Successfully completed courses (grades of A, B, C, D, S), transfer hours accepted toward completion of student's program, academic renewal hours earned through previous enrollment, advanced placement credit, credits earned through Study Abroad and Consortium agreements, credits earned while student is not receiving federal aid and experiential learning credits are all counted as attempted and earned.
    - Overall Earned Credits / Overall Attempted Credits = Pace
3. **Maximum Timeframe**
   A student is eligible for financial aid until they have attempted 150% of the minimum credit hours required to earn a specific degree. The University of Wyoming sets the following maximum timeframe for student degrees:
    - Undergraduate - 180 hours (150% of 120 hours)
    - Second Bachelor's degree - 270 (150% of 180 hours)
    - Master's Program - 45 hours (150% of 30 hours)
    - Doctorate Program - 108 hours (150% of 72 hours)
    - Law - 135 hours (150% of 90 hours)
    - Pharmacy - 213 hours (150% of 142 hours)

Transfer hours are included in the calculation of the Maximum Timeframe. When pursuing multiple degrees or changing majors the maximum timeframe may be adjusted based on a student generated appeal that includes a degree audit. All attempted credit hours are considered when calculating the maximum timeframe regardless of whether or not the student received financial aid for those hours. Any student with hours over the maximum timeframe are "Not Eligible" for further federal financial aid until a SAP appeal is received and approved by the committee. There will be

no warning semester. Submitting an appeal does not guarantee approval. Students awaiting a decision on their SAP appeal are responsible for paying their tuition and fees by the payment deadline.

Financial Aid Eligibility Statuses

1. **Financial Aid Warning**
   Students who have not met the minimum standard requirements for the previous semester will be placed on a 'Warning' status. Students on 'Warning' status are eligible for financial aid for one additional semester. Students who do not meet minimum standard requirements at the end of their 'Warning' semester will be 'Not Eligible' for the next semester.
2. **Financial Aid Probation**
   Students who have successfully appealed a status of "Not Eligible" are placed on probation and are eligible to receive federal aid for one more semester. After probation, the student must be making SAP or successfully following their Academic Plan. Students are reviewed at the end of each semester for compliance with their Academic Plan and SAP Standards.
3. **Not Eligible**
   A student who does not meet SAP requirements at the end of the warning semester, whose SAP appeal has been denied, who has not fulfilled the requirements of their academic plan or who has met their maximum timeframe will be categorized as "Not Eligible."

Reinstatement

If a student loses federal financial aid eligibility due to not meeting SAP standards or their appeal was denied, they can regain eligibility in one of the following ways:

1. Completing courses using their own resources that will satisfy the deficient SAP area.
2. Successfully appealing by submitting a SAP Appeal Form with supporting documentation.
3. Taking a minimum of 2 classes, 6 hours, no fails, no withdrawals and grades of "C" or better on their own. If successful, student can appeal for the next term.

SAP Appeal Process

A student that is "Not Eligible" for federal financial aid has the option to appeal. The student must submit a complete appeal form to the Office of Scholarships and Financial Aid by the end of the drop/add period of the term in which they are appealing. The complete appeal form including the academic plan and all supporting documentation will be presented to the SAP Appeal Committee. The SAP Appeal Form must include the following:

- an explanation of any extenuating circumstances that prevented the student from maintaining Satisfactory Academic Progress,
- an explanation of what has changed that will allow the student to succeed academically,
- supporting documentation for the extenuating circumstances, their ability to improve, or both, and
- an Academic Plan signed by their academic advisor that will enable student success

All appeals are reviewed by a SAP committee. The review time for appeals may take 7-10 business days. Students will be notified of the results by email. If the appeal is granted, the notification will explain the terms of the approval. If the appeal is denied, students may request an additional review by the Director of Scholarships & Financial Aid if they have something that was not included in the original appeal to be considered. The Director's decision is final.

Items to consider:

- Being declared 'Not Eligible' for federal financial aid does not mean a student has been academically dismissed from the University of Wyoming.
- Many scholarship recipients are required to maintain a higher credit hour level or grade point average than outlined in this policy. Guidelines on the minimum acceptable credits/grade point average for scholarship recipients are outlined by donors or in acceptance notices signed by the recipient.
- Students must submit complete appeal form with academic plan and supporting documentation by the end of add/drop period. Advisor signature and certification are required on the academic plan.

- Repeated courses:
    - A student can repeat a course one time and still receive federal aid for that course. On the third attempt, federal aid will not pay for that course.
    - All repeated courses will be calculated again in attempted hours and could pull down completion percentage (pace).

Financial Aid Federal Return of Funds Policy

A student who receives federal financial aid (other than Federal Work Study pay checks) and chooses to complete less than 60% of an academic term is considered not to have earned all the federal aid he or she has been awarded.

- If aid already disbursed is equal to earned aid, no further action is required.
- If aid already disbursed is less than earned aid, additional aid may be offered to the student after he or she withdraws.
- If aid already disbursed is greater than earned aid, UW and/or the student must return some federal funds.

To determine whether federal funds have been earned or must be returned, UW follows this procedure:

1. Determine the percentage of the term the student completed. This is calculated by dividing the number of calendar days (including weekends) in a term into the number of calendar days that the student was in attendance for that term.
2. Apply the percentage of time attended to the total amount of federal aid the student was eligible to receive for the term. This is the student's "earned aid."
3. Subtract the amount of earned aid from the amount of aid actually disbursed to the student. A positive remainder is the student's "unearned aid." A negative remainder is the student's "earned aid" that may still be offered to the student.
4. Determine the amount of unearned aid remaining that must be repaid by the student. Subtract the amount of unearned aid repaid by the institution from the total amount of unearned aid.

All unearned aid will be returned to the federal student loan lender or federal aid accounts in the following order: (1) Unsubsidized Federal Direct Loan; (2) Subsidized Federal Direct Loan; (3) Federal PLUS (Parent) Loan; (4) Federal Pell Grant; (5) Federal SEOG Grant. Any amount owed by the student on a grant will be reduced by 50%.

The date of a student's withdrawal from UW will be the date of the student's notification to the Dean of Students Office of an intent to withdraw if the student has no federal aid. For students who have received federal aid, the withdrawal date will be the last date of an academically related activity as reported by their instructors. When a student ceases to attend, but fails to officially withdraw from UW and has all F's at the end of the semester, the withdrawal date will be the latest date of an academically related activity as reported by their instructors.

UW will repay the lesser of (1) the total amount of unearned aid or (2) an amount equal to the student's institutional charges multiplied by the percentage of unearned aid. Whatever UW repays to the federal government will then show as a bill owed to UW by the student. "Institutional charges" is defined as charges for tuition and fees, plus room and board charges for students living in UW residence halls and apartments. It does not include such charges as bookstore charges, student health insurance premiums, parking citations, or library fines.

The amount of unearned aid owed by the student on a loan may be repaid under the normal repayment terms of the loan. The amount of unearned aid owed by the student on a grant must be repaid immediately.

Any amount of earned aid not yet disbursed to the student will be offered to the student. Such offers will cover any undisbursed grants first, followed by the undisbursed loans.

Examples of how the amount of unearned federal aid a student must return is calculated are available from a professional advisor in the OSFA. A chart detailing the percentage of earned and unearned aid, by calendar day of the semester, is provided in the term's class schedule. In brief, to determine the percentage of earned federal aid, the

calculation will use the total number of calendar days in the term divided by the total number of calendar days the student attended.

Funds Distribution

Each student who registers has his or her own student account with the university. Once a qualified student has registered for classes and accepted their awards on WyoRecords, the OSFA will authorize the electronic transfer of funds from UW financial aid accounts to the student's individual account at the university.

First-time borrowers of federal student loans must participate in entrance loan counseling (view a web presentation) and complete a Master Promissory Note (MPN). All student loan borrowers must participate in an exit loan interview (on the web) prior to leaving UW.

Federal Work-Study funds are processed through UW's Payroll Department on a bi-monthly schedule. Payroll checks may be direct deposited or mailed to the student.

The university will automatically charge a student's account for tuition and fees based on the student's enrollment. Likewise, if the student is living in a university residence hall, room (housing) and board charges (food) will be placed on the student's account.

Any financial aid credited to a student's account will automatically pay tuition and fees first and then charges for room (housing) and board (food) in UW residence halls. Unless directed otherwise in writing by the student, any remainder will be applied to other university charges. If a negative balance results, a credit balance will be prepared by the university and will be refunded to the student through the University's electronic refunding process. If a student has elected for the Title IV credit balance to be held until and applied to a future semester in that aid year, no refund will be processed. All outstanding refunds will be refunded at the end of each aid year's spring semester and therefore cannot be held for a summer semester.

Scholarships awarded for the academic year will be split into two equal payments to the recipient's student account with one to be paid at the beginning of each semester. Most non-UW scholarships will be loaded and split into two equal payments, unless the donor specifies otherwise or the amount is <$1,000.

Students enrolled in a domestic or international exchange program, or a study abroad program approved by UW for academic credit, are eligible to apply for federal student financial assistance. Likewise, students concurrently enrolled in classes at two or more eligible institutions of post-secondary education may apply for federal aid. A special consortium agreement between institutions must be completed prior to each semester a concurrently enrolled student seeks aid. Those granted a Federal Work-Study allocation have opportunities to perform community services to earn their allocation.

Information describing available aid, award criteria, rights and responsibilities of aid recipients, costs of attendance or refund and repayment policies and schedules is available by writing to Office of Scholarships and Financial Aid, Dept. 3335, 1000 E. University Ave., Laramie, WY 82071, or viewing the financial aid web site at www. uwyo.edu/SFA/.

Important: Students are assumed to be full-time when their initial financial aid is determined. If you plan to attend less than full-time in any semester, your cost of attendance (COA) to determine your financial aid will be adjusted to reflect your enrollment status after the add/drop period. It is always best to make the OSFA aware of your intended enrollment prior to the start of a semester so that accurate amounts of financial aid may be applied to your account. Students receiving non-UW scholarships may not be eligible to receive those funds if they are enrolled less than full-time; each donor will be consulted to determine if the funds have to be returned or not.

Financial aid policies are subject to change without notice to reflect modifications in federal, state and institutional laws and regulations.

Tuition and Fees

- Semester Tuition and Fee Schedule 2024-25 (subject to change)
- Block Tuition
- Student Benefit Package and Insurance
- Tuition and Fee Payment
- Special Course Registration Fees
- Tuition Waivers
- Financial Holds
- Billing Statements and Student Accounts
- Summer Session
- Refunds/Cancellations
- Interaction of Federal Return of Funds Policy and Institutional Refund Policy
- Veterans Educational Benefits
- Student WyoOne ID Cards

Semester Tuition and Fee Schedule 2024-25 (Subject to Change)

The University of Wyoming semester tuition and fee schedules for the 2024-25 academic year, which begins with fall semester 2024-25, will be available in the Fee Book at http://www.uwyo.edu/administration/financial-affairs/feebook/ or from Student Financial Services, room 172, Knight Hall. Fall charges will post to accounts in WyoRecords by the end of July, spring charges will post by the end of November, and summer charges will post to accounts by the end of April.

Full-time undergraduate refers to undergraduate students enrolled for 12 or more hours, and part-time undergraduate refers to undergraduate students enrolled for less than 12 hours. At the graduate level, nine or more hours is considered full-time and less than nine hours is classified as part-time. Assessment is based on level, residency, campus and program.

Block Tuition

Beginning Fall 2023, the University of Wyoming is offering block tuition for full-time students. Block tuition allows undergraduate students to take 12 to 18 credit hours at the same tuition cost or "block" rate. Graduate students taking 9 to 12 credit hours will also experience benefits with block tuition. Block tuition is only charged for the fall and spring semesters. Summer term tuition will be charged per credit hour rate. Student fees still apply in addition to block tuition rates. Please visit www.uwyo.edu/fsbo/student-financial-services/block-tuition.html for more information.

Student Benefit Package and Insurance

At the beginning of each semester, the student benefits package will be added to student accounts of all eligible students who have elected to purchase UW health insurance and have not been charged the mandatory student services fee. The benefits package allows students the use of Student Health Service and Half Acre Gym as well as access to athletic events.

Graduate students taking less than 4.5 credit hours should contact their academic department and also refer to the "Graduate Student Optional Fee Package Petition" document, which may be found on the Office of the Registrar's website.

Students not assessed insurance who would like to purchase the benefits package, not for full-time status purposes, can fill out a form in Student Financial Services, 172 Knight Hall, and then pay for the package at the Cashier's Office, 170 Knight Hall, or online via the student financial portal. Main campus students enrolled in less than six hours or students in online-only programs are not automatically assessed the fee but are eligible to purchase the package.

Student medical insurance is mandatory for international students. International students are automatically enrolled in the medical insurance every fall and spring semester that they enroll in classes. Students may potentially waive this requirement if they meet university regulations and provide the necessary documentation by the add/drop deadline.

Each domestic enrolling student will be required, as part of the registration process, to make a student medical insurance selection. If the eligible student selects "YES" to the question, the premium will be assessed on the student's account. If the student selects "NO," they will not be assessed for the premium. Eligible students who select yes for the health insurance will also be assessed for the Student Benefit Package if they have not been charged the mandatory student services fee.

Domestic students are eligible for insurance if they are enrolled in at least 6 hours for undergraduate or 4.5 hours for graduate students. Students are not eligible for student health insurance if online or remote only.

For questions regarding the Student Medical Insurance program, contact the Student Medical Insurance Advocate (641 Hill Hall Hall) at (307) 766-3025.

Tuition and Fee Payment

All university charges are due by September 15 (fall), February 15 (spring), and June 1 (summer).

An institutional payment plan is available for students who need extra time to pay. Any student not paid in full by the first date or self-enrolled in the plan will be automatically enrolled in the plan and assessed a non-refundable $50 late fee. The payment plan adds three monthly installments for fall and spring and two installments for summer in addition to the first due date above. These are due on the 15th of the subsequent months for fall/spring and the 1st for summer. Registration holds and $50 late fees will be assessed on each late or missed monthly installment (maximum of $200 per semester).

Special Course Registration Fees

Additional charges (special course, college, advising, and program fees) must be paid by students enrolling in those courses and colleges with approved special fees. Fees for these courses and colleges will be indicated in the Fee Book. Program fees, assessed to all courses under 5000 level, are by the college in which the course is held and may be different than a student's primary program.

Tuition Waivers

If an employee, spouse of an employee or cooperating agency waiver is used for payment of tuition and/or fees, the properly completed and signed waiver must be received by the Student Financial Services office by the first day of the term. All waivers will be applied to accounts after the drop deadline. To be eligible for the waiver, the student must be

a benefited employee by the first day of class. Please refer to Regulation 7-11 Tuition, Fees, Scholarships and Financial Aid for details of the benefit.

Financial Holds

A student failing to pay fees, charges, fines, penalties, deposits, or short term loans as prescribed by the Trustees of the University of Wyoming shall be denied registration at the university and copies of academic transcripts until such fees, charges, fines, penalties, deposits or short term loans are paid in full. A ten-day wait is required before a student loan hold can be removed if the debt is paid with a personal check. Contact Student Financial Services via email (sfs@uwyo.edu) or in person at Knight Hall 172 for information regarding financial holds.

If payment is made on a student account and the payment is returned to the University as a result of insufficient funds or otherwise, the student will have a hold on their account until the return payment fee in addition to the original amount is paid. Registered classes secured by a returned payment are subject to cancellation.

Billing Statements and Student Accounts

Students and authorized users are billed electronically each month and it is the responsibility of the student to review the statement information via the Student Financial portal and pay within the payment deadlines. Billing notifications are sent to the student's UW email address monthly, but current account activity can be viewed at any time via the Student Financial portal or the Authorized user portal.

Summer Session

Please refer to the Summer Course Schedule and Calendar for applicable deadlines. Shorter classes will have shorter refund periods.

Refunds/Cancellations

Tuition and course fees will be canceled or refunded to a student who officially drops a class or classes, completes an all-school withdrawal through the Dean of Students Office, or changes enrollment status (i.e. non-resident to resident; full-time to parttime) in accordance with the institutional refund policy outlined below. No tuition penalty will be assessed for dropping and adding during the drop period identified in the term's class schedule. Students who withdraw from individual courses after the end of the drop/add period will not receive a refund unless they complete an all-school withdrawal. Mandatory fees, program fees, advising fees, course fees, or service fees are not refundable after the drop period. The portion of tuition refund/cancellation is computed from the first day of the term by calendar day, not the class meeting pattern. If a student's initial registration includes blocked classes or short courses that begin at a later date, the refund/cancellation will still be computed from the first day of the block/session. If a student's initial registration occurs during an approved late registration period, the date for computing a refund/cancellation will be the first day of the term.

Institutional Refund Schedule for All School *

Before the first day of the semester	100%

Calendar Day 1-10	100%
Calendar Day 11-15	75%
Calendar Day 16-20	50%
Calendar Day 21-25	25%
Calendar Day 26 on	0%

*Individual classes dropped in the 100% period will receive a refund. After the drop date, refunds are only issued for all-school withdrawals.

Interaction of Federal Return of Funds Policy and Institutional Refund Policy

When a student who receives federal financial aid withdraws from the university, they may owe a repayment of federal funds, be due a refund from UW, or owe an additional amount to UW. For details on the application of these policies to a specific situation, please consult with Scholarships & Financial Aid, 174 Knight Hall, (307) 766-2116, as well as Student Financial Services, 172 Knight Hall, (307) 766-6232.

Veterans Educational Benefits

Students who have served in the armed forces may be allowed credit for courses taken in some military schools. Students who desire to apply for credit on the basis of the military schools should submit a copy of the DD-214 Form or its equivalent to the Office of the Registrar. Individual colleges will determine whether such courses will be applicable to degree programs. All veterans seeking educational benefits must register with the veterans' certification specialist in Student Financial Services, 172 Knight Hall, (307) 766-2525. This includes completing a veteran's registration card each semester. Those veterans not completing a veteran's registration card by the last day of the late registration period will be dropped from VA educational assistance at the university.

Class load requirements for veterans are as follows:

Undergraduate and Pharm.D. Veterans:
Full-time 12 or more credit hours
3/4 time at least 9, but fewer than 12 hours
1/2 time at least 6, but fewer than 9 hours
Less than 1/2 registration credit hour fee reimbursement only

Graduate and Law Veterans:
Full-time 9 or more graduate credit hours or certification by the Office of the Registrar*
3/4 time at least 7 but fewer than 9 graduate credit hours or certification by the Office of the Registrar*
1/2 time at least 4.5, but fewer than 7 graduate credit hours
Less than 1/2 registration credit hour fee reimbursement only

*The final responsibility for seeing that the veterans' certification specialist has a certification from the Office of the Registrar rests with the student. It must be received by the last day of scheduled registration.

If any portion of a veteran's schedule is composed of courses which are less than the full semester in length (i.e., short courses, workshops, "blocked" courses, etc.), the rate of benefit payment may be affected. If you have any questions or concerns, contact the veteran's certifying official in SFS, 172 Knight Hall, (307) 766-2525. Withdrawal from a class or classes could reduce a veteran's benefits for that term. For details, contact the veteran's certifying official in SFS. National Guard Benefit Active Wyoming National Guard members in good standing and considered to be satisfactory participants may apply to participate in the Guard's Education Assistance Plan. The Plan provides 100 percent tuition and mandatory fee payment for all courses (except repeated courses) leading to one degree at UW, as long as the recipient continues to meet academic and service commitment requirements. Recipients must agree to serve in the Guard for at least two years after earning their degrees. This benefit may be used concurrently with Veterans Educational GI Bill ® Benefits. For information and application packets, please contact the Wyoming National Guard at 800-832-1959, ext. 5262.

Student WyoOne ID Cards

167 Information Technology Center, (307) 766-5268

ID cards are issued to all students during their first semester of enrollment. These cards are used throughout the student's entire career at the university.

The ID card also referred to as the WyoOne card, is needed to pick up transcripts, financial aid, cash checks, access student health services, attend athletic events, enter recreation facilities, check out library books and materials, food service access, enter residence halls, and other necessities. Visit the online card office at www.uwyo.edu/ idoffice/ to make deposits, view transaction history, and access other card management features.

The WyoOne card may also be used as a debit card to make purchases at some locations on campus after the deposit account is established. Spouses, domestic partners, and dependents of students are eligible for an ID card.

University Accreditation/Membership

- University Accreditation/Membership

University Accreditation/Membership

The University of Wyoming, and all UW academic programs are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604 or (800) 621-7440.

In addition, many individual academic programs are either approved, accredited or hold membership as indicated below.

Recognized or accredited by:

- ABET (formerly known as Accreditation Board for Engineering and Technology)
- Accreditation Association for Ambulatory Health Care, Inc.
- Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics
- Accreditation Council for Graduate Medical Education
- Accreditation Council for Pharmacy Education
- American Alliance of Museums

- American Association of Professional Landman
- American Association of Vet Lab Diagnosticians
- American Bar Association
- American Chemical Society
- American Council for Construction Education (ACCE)
- American Dental Association
- American Psychological Association
- Association of American Law Schools
- Association to Advance Collegiate Schools of Business (AACSB)
- Council for Accreditation of Educator Preparation
- Commission on Collegiate Nursing Education
- Computer Science Accreditation Commission (a participating body of ABET)
- Council for Accreditation of Counseling and Related Educational Programs
- Council on Academic Accreditation in Audiology and Speech Language Pathology
- Council on Social Work Education
- International Association of Management Education
- National Association of Schools of Art and Design
- National Association of Schools of Music
- National Association for Sport & Physical Education - Accreditation
- National Council for Accreditation of Teacher Education
- National Council on Family Relations
- Society for Range Management
- Specialized Professional Association-Licensure K12 Physical Education
- Wyoming Professional Teaching Standards Board

Holds membership in:

- American Association of Colleges of Teacher Education
- American Association of University Women
- American Council on Education
- American Society for Engineering Education
- Association for the Advancement of International Education
- Association of Academic Survey Research Organizations
- Association of American Colleges and Universities
- Council for the Advancement and Support of Education
- Council of Academic Deans from Research Education Institutions
- Council of Colleges of Arts and Sciences
- Council of Graduate Schools
- Justice Research and Statistics Association
- Greater Western Library Alliance
- Associate of Public and Land Grant Universities
- National Network for Educational Renewal
- University Professional and Continuing Education Association
- Western Association of Graduate Schools
- Western Cooperative for Educational Technology
- Western Interstate Commission for Higher Education

Assessment of Student Learning at the University of Wyoming

The University of Wyoming is committed to providing students with high quality academic programs and services. As a result, UW is actively engaged in several processes to assess student learning with the ultimate goal of continuous improvement. A university wide assessment plan and individual department plans are in various stages of implementation. The purpose of these plans is to identify and articulate student learning outcomes - the skills, abilities, and knowledge that students are expected to acquire by the completion of their programs - and the means by which these outcomes would be measured. Learning is assessed at the university, college and departmental levels. Current assessment activities include, but are not limited to, surveys, interviews, portfolios, exams and senior capstone projects. In order for UW's assessment efforts to be successful, students must become engaged in the process. As such, students are expected and/or required to complete various assessments as determined by the university or department prior to the awarding of degrees.

For more information regarding the student learning outcomes for a particular program of study, see the section on College and Division Programs. For further information about the University of Wyoming's assessment of student learning efforts, see the Assessment of Student Learning webpage at www.uwyo.edu/assessment.

The University Studies Program 2015

- Knowledge of Human Culture, the Physical & Natural World, and the U.S. & Wyoming Constitutions
- Intellectual and Practical Skills
- Personal & Social Responsibility

Students who enter the University of Wyoming or a Wyoming community college beginning in fall 2015 will be required to meet the USP 2015 requirements for graduation. Requirements of the USP are divided into categories based on the student learning outcomes. All courses are mutually exclusive of each other; no single course may count in more than one category. USP designated courses are open to all UW students (with a few exceptions for the Fall Bridge and Honors College).

Knowledge of Human Culture, the Physical & Natural World, and the U.S. & Wyoming Constitutions

Human Culture (H) Credits 6

Students will understand human behaviors, activities, ideas, and values in different situations and contexts. Complete six approved credit hours of coursework. **Approved coursework does not include courses taken with the student's major department.**

Physical and Natural World (PN) Credits 6

Students will understand the fundamental concepts of scientific and quantitative inquiry and develop the ability to understand the relevance of scientific, technological, and quantitative skills to contemporary society. Complete six approved credit hours of course work. **Approved coursework does not include courses taken from the student's major department.**

U.S. & Wyoming Constitution (V) Credits 3

Students will demonstrate an understanding of the U.S. and Wyoming constitution in order to develop the combination of knowledge, values, and motivation to participate in and improve the life of our local and global communities. Approved V courses fulfill both the U.S. and Wyoming Constitution requirements.

Intellectual and Practical Skills

Communication 1 (C1) Credits 3

Students will develop skills in written, oral, and digital communication as appropriate to specific disciplines and courses at the introductory, intermediate, and advanced level. Through repeated instruction, practice, and feedback, the communication sequence will emphasize and progressively develop transferable skills for students' academic work and future professions. The introductory course (C1) will emphasize foundational skills for academic writing. **Communication 1 must be completed with a C or better.**

Communication 2 (C2) Credits 3

Intermediate courses (C2) will emphasize foundational oral and digital communication skills and continue to build on writing skills. Successful completion of C1 is required prior to enrolling in a C2 course. This category can be fulfilled by courses taken from the student's major department. **Communication 2 must be completed with a C or better.**

Communication 3 (C3) Credits 3

Advanced courses (C3) will emphasize using the discourse of a discipline or interdisciplinary field to communicate to academic or professional audiences through written, oral, and digital communication. Successful completion of C2 is required prior to enrolling in a C3 course. This category can be fulfilled by courses taken from the students major department. **Communication 3 must be completed with a C or better.**

First-Year Seminar (FYS) Credits 3

Students will critically examine and evaluate evidence, claims, beliefs, or points of view about meaningful, relevant issues. Students will be introduced to active learning, inquiry of pressing issues, and individual and collaborative processing of ideas through the First-Year Seminar curriculum. These skills will be reinforced throughout the baccalaureate experience. The First-Year Seminar will provide the skills and philosophy necessary for success as a student and life-long learner. Students will have an opportunity to select from a range of academic courses covering unique and interesting subject matter focused on developing critical thinking, communication, and information literacy skills. Colleges, departments, and programs cannot require a particular FYS class for a major. **First-Year Seminar must be completed with a C or better.**

FYS Pause:

Starting in the Academic Year of 2023/24, the First Year Seminar program has been put on pause. During this pause, students must take either a 3-credit hour First Year Seminar Course or a 3-credit hour USP elective. This USP elective can be any USP approved course from any USP category.

Quantitative Reasoning (Q) Credits 3

Students will reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. All students must fulfill the Q requirement, either through successfully completing the Q course or with SAT Math 600+, ACT Math 26+, or a *proctored MEP Level 4*.

Personal & Social Responsibility

No mandatory USP courses. Students will have varied experiences depending on coursework and co-curricular activities chosen by them.

Wyoming Community Colleges have defined a Common General Education Core Curriculum as a component of an associate's degree. Per transfer policy, an AA or AS or AB degree from a Wyoming community college will satisfy the lower-division requirements of the University Studies Program. Students transferring to UW from any Wyoming community college without an associate's degree will have their transcript review on a course-by-course basis.

Students who enrolled at the University of Wyoming or a Wyoming community college prior to the fall of 2015 and who maintained continuous enrollment have the option of satisfying USP 2003 or USP 2015 requirements.

The following courses were approved for the University Studies Program 2015 at the time this catalog went to press. The process of course approval is ongoing. For a complete and updated list of approved courses, see the USP website at http://www.uwyo.edu/usp/.

Communication:

Communication 1 (C1)

EAP 1210 English Composition for International Students

ENGL 1010 College Composition and Rhetoric

HP 1020 Freshman Colloquium I

Communication 2 (C2)

AAST 2240 Introduction to African Studies

AAST 2360 African American History, 1619-Present

AAST 2450 Traditional African Religions

AIR 3010 Leading People & Effective Communication

ANTH 2000 Introduction to Linguistic Anthropology

ART 3710 Gender and Humanities

COMM 2010 Public Speaking

COMM 2095 Persuasive Arguments

CW 2200 Creativity in the 21st Century

EAP 3050 Advanced Academic Writing for International Students

ECON 2400 Economics of the Environment

EDSE 3100 Teacher as Practitioner & EDSE 3101 Practicum 3

ENGL 2005 Technical Writing in the Sciences

ENGL 2015 Composition & Rhetoric II: College & Career

ENGL 2020 Literature, Media, & Culture

ENGL 2025 Introduction to English Studies

ENGL 2030 Critical Reading & Writing

ENGL 2035 Writing for Public Forums

ENGL 3710 Gender and the Humanities

ENR 2000 Environment and Society

ENR 2450 Fish & Wildlife Management in the Anthropocene

ERS 3000 Energy Project Outreach & Communication

FCSC 2200 Professionalism and Communication in Family and Consumer Sciences

FREN 3050 Third Year French I

GEOL 2220 Communication Earth Science

GERM 3050 Third Year German I

GIST 2110 Techniques in Cartography

GWST 3600 Gender, Race, Sex & Social Systems

GWST 3710 Gender and Humanities

HIST 2320 History of Islam

HIST 2360 African American History, 1619-Present

HP 2020 Honors Colloquium II

INST 2200 Politics of Europe

INST 2230 Introduction to Asian Studies

INST 2240 Introduction to African Studies

INST 2250 Introduction to Latin American Studies

KIN 3012 Teaching Laboratory I

LBRY 3020 Research as Social Capital

LIFE 2300 Scientific Communication

MKT 3310 Fundamentals of Professional & Technical Selling

ORTM 2050 Planning, Design, & Delivery

POLS 2200 Politics of Europe

POLS 3600 American Political Thought

POLS 3680 Introduction to Empirical Political Analysis

RELI 2030 Violence and Resistance

RELI 2200 Contemporary American Religion

RELI 2320 History of Islam

RELI 2450 Traditional African Religions

RELI 3245 Christianity Since Darwin

SELL 3310 Fundamentals of Professional & Technical Selling

SPAN 3030 Spanish for Heritage Speakers

SPAN 3050 Third Year Spanish I

THEA 2060 Introduction to Performance Studies

UWYO 2300 Veterans Transition Group

ZOO 2450 Fish & Wildlife Management in the Anthropocene

Communication 3 (C3)

AAST 4065 Black American Rhetorics

AAST 4066 Rhetorics for Social Justice

AAST 4067 Race, Gender, Media, and Rhetoric

AAST 4100 African American Religious Culture

AGEC 4965 Agribusiness Entrepreneurial Management and Communication

AGEC 4970 Technical Communication for Agribusiness Majors

AGRI 4600 Developing Organizational Leaders

AIR 4010 National Security Affairs

AMST 4985 Senior Seminar

ANSC 4630 Topics and Issues in Animal Science

ANTH 3300 Ethnographic Methods

ARE 3210 Civil Engineering Materials

ART 3490 Philosophy, Theories, and Contemporary Issues in Art Education

ART 4010 Contemporary Art: Theory and Practice

ART 4600 Professional Practices and Strategies

ART 4790 Art History Seminar

BOT 4100 Scientific Communication

BOT 4101 Scientific Communication Lab

BOT 4444 Biology Capstone

CE 3210 Civil Engineering Materials

CHE 4080 Process Design II

CHEM 4010 Communication in Chemistry

COJO 3010 Business & Professional Communication

COJO 3190 Cross Cultural Communication

COJO 4061 Rhetorical Theory & Criticism

COJO 4065 Black American Rhetorics

COJO 4066 Rhetorics for Social Justice

COJO 4067 Race, Gender, Media, and Rhetoric

COJO 4110 Feature Writing Seminar

EAP 4010 Technical Writing for International Students

ECON 4240 Evolution of Economic Ideas

EDEL 4410 Elementary Mathematics Education Method

EDSE 4270 Subject Matter Specific Methods II: Secondary English Education

EDSE 4271 Subject Matter Specific Methods II: Secondary Mathematics Education

EDSE 4273 Subject Matter Specific Methods II: Secondary Social Studies Education

EDSE 4275 Subject Matter Specific Methods II: Secondary Science Education

EDSE 4276 Subject Matter Specific Methods II: Secondary Modern Language Education

EDSE 4277 Subject Matter Specific Methods II: Secondary Pedagogy Technical Education

EDSE 4278 Subject Matter Specific Methods II: Secondary Agriculture Education

EE 4820 Senior Design I

EE 4830 Senior Design II

ENGL 3020 Culture, Communication, and the Workplace

ENGL 4000 21st Century Issues in Professional Writing

ENGL 4010 Technical Writing in the Professions

ENGL 4025 Writing for the Web

ENGL 4030 Writing for Magazines

ENGL 4040 Rhetoric, Media, and Culture

ENGL 4061 Rhetorical Theory & Criticism

ENGL 4065 Black American Rhetorics

ENGL 4066 Rhetorics for Social Justice

ENGL 4067 Race, Gender, Media, and Rhetoric

ENGL 4075 Writing for Non-Profits

ENGL 4999 Senior Seminar

ENR 4900 ENR Policy in Practice

ERS 4135 Advanced Oil & Gas Law

ESS 4950 Exploring the Earth System

FCSC 4182 Environmental Sustainability in Design, Merchandising and Textiles

GEOL 4820 Capstone

GERM 4200 Introduction to Research

GWST 4067 Race, Gender, Media, and Rhetoric

GWST 4700 Feminist Theories

HIST 4030 Senior Capstone Seminar

INST 4950 Capstone

KIN 4080 Assessment in Physical Education

MATH 4200 Analysis 2: Advanced Analysis

MATH 4510 Algebra II: Introduction to Group Therapy

MGT 4800 Business Strategy & Policy

MICR 4130 Mammalian Pathobiology

MICR 4321 Microbiology Capstone

MLSK 4860 Laboratory Management

MOLB 4053 Communications in Molecular Biology

MUSC 3600 Songwriting Methods

MUSC 4330 Undergraduate Seminar

MUSC 4465 Instrumental Music Methods

NURS 4055 Evidence-Based Nursing for the RN

NURS 4125 Evidence-Based Nursing

ORTM 4903 Capstone

PATB 4130 Mammalian Pathobiology

PETE 4736 Petroleum Engineering Design

PHCY 6245 Patient/Professional Interactions

PHCY 6470 Internal Medicine I

PHCY 6473 Ambulatory Pharmaceutical Care

PHCY 6485 Reflective Learning in Pharmacy

PHYS 3650 Advanced Modern Physics Lab

PLNT 4990 Plant Sciences Capstone

POLS 4810 Seminar in Political Philosophy

POLS 4840 Seminar in Public Law

POLS 4850 Seminar in American Political Institutions

POLS 4870 Seminar in International Relations: Comparative Genocide

POLS 4890 Seminar in Comparative Government & Politics

RELI 4000 Theories in Religion

RELI 4100 African American Religious Culture

REWM 4900 Rangeland Management and Planning

RMAL 4760 Organizational Leadership in Agriculture

SOWK 4570 Social Work Research Methods

SPAN 4200 Introduction to Research

THEA 4200 Dance History II

THEA 4330 History of American Musical Theatre

THEA 4930 Theatre History I

UWYO 3600 Campus to Career

UWYO 4101 Bachelor of General Studies Capstone Design

WIND 4300 Transnational Disability Studies

ZOO 4100 Scientific Communication

ZOO 4101 Scientific Communication Lab

ZOO 4200 Applied Principles of Science Communication

First-Year Seminar (FYS)

ACES 1101 The New Geography of Jobs

AGEC 1101 Public (Mis)perceptions of Agriculture

ANSC 1101 Beyond Cowboys & Critters: The Science of Animal Agriculture

ANTH 1101 Anthropology of Monsters

ANTH 1101 Hoaxes, Myths, and Charlatans in Archaeology

ART 1101 Reading Tex(tiles): Exploring Fabric as a Vehicle for Communication

ART 1101 Build Your Own Camera

ATSC 1101 Weather, Climate, and Global Change

BOT 1101 Paleontology's Great Debates

BOT 1101 Fish & the Human Experience

BUSN 1101 Decision Making in Business

CE 1101 Engineering Earth's Water

CHIN 1101 A Taste of China: Travel, Food, and Culture

COMM 1101 Small Group Communication

COMM 1101 Trending Now: Media Literacy in the 21st Century

COMM 1101 Understanding Human Communication

COSC 1101 The Beauty and Joy of Computing

CW 1101 The Power of Story: How Narrative Shapes Our Understanding of the World

ECON 1101 Bite-Sized Economics

ECON 1101 Business of Sports

ECON 1101 Viking Economics

EDEC 1101 Borders, Barriers, and Bridges: Creating Community Across Global Issues

EDEL 1101 Race & Racism

EDST 1101 The Citizen Factory: Schooling and Democracy in the US

EE 1101 Bits & Bytes: A Taste of Electronics

ENGL 1101 Night of the Living Film: Zombies, Living Dead, Walkers... Humans

ENGL 1101 Travel Writing: From Wyoming to the World

ENR 1101 Thinking Like a Mountain: Environmental Problems, Interdisciplinary Solutions

ENTO 1101 Pests, Plagues and Plants

ERS 1101 Energy, Environment, and Economics

ES 1101 Introduction to Engineering Study

ES 1101 Innovation & Entrepreneurship

ES 1101 Mission to Mars

FCSC 1101 People, Place, Profit and Policy: Sustainability and Well-Being in the Built Environment

FIN 1101 Personal Finance

GEOG 1101 Surviving the Apocalypse: The Geography of Natural Disasters

GEOL 1101 Man and Geology: The Control of Nature

GERM 1101 Ger-Merican Dreams: The German Cultural Presence in the US

HIST 1101 Hamilton's America: Beyond the Musical

HP 1101 Calling Bull$#!% in a science-driven world

HP 1101 Quests, Epics, Identity

HP 1101 Narrative of Success: Moving Beyond Achievement to Define Meaningful Success

HP 1101 The Purpose of the University

HP 1101 A Walk Across the World: Popular Film, International Inquiry, and Problem-based Learning

HP 1101 Travel Writing: From Wyoming to the World

INST 1101 Exploring the Middle East: Camels, Hookahs and Oil

INST 1101 Viking Economics

ITEC 1101 Making, Hacking, and Tinkering: Creating in the Modern World

KIN 1101 Kinesiology - the Science of Human Movement

LIFE 1101 Introduction to Ecological Research

LTST 1101 Latina/o Popular Culture: Art, Theatre, Media, Music and Sports

MATH 1101 Infinity---Beyond?

MOLB 1101 The Neanderthal and the nucleus; the molecular biology of being human

NEUR 1101 Think About Thinking

NURS 1101 Should Health Care Fly?

PATB 1101 One Health: People, Animals, and the Environment - Zero Degree of Separation

PATB 1101 Think About Thinking

PHCY 1101 Navigating Survival: A Compass for Campus Mental Health

PHIL 1101 Philosophy as a Way of Life

PHYS 1101 Natural History: Past, Present, & Future

PHYS 1101 What really happened: How scientific theories come about

PHYS 1101 Critical Thinking Through Science and Science Fiction

PLNT 1101 Eating as an Agricultural Act

POLS 1101 Dangerous Ideas: First Amendment Civil Liberties in Theory and Practice

RELI 1101 Worlds of Religion

RELI 1101 Gilgamesh to the Bomb

SOC 1101 The Sociology of Pets

STAT 1101 The Power of Confidence

THEA 1101 Performance as Change

UWYO 1101 Outdoor Leadership

UWYO 1101 From Home to Here, Where Cultures Meet

UWYO 1101 UW Veterans

UWYO 1101 Say "Cheese" Happiness & Well-being through the Lens of Art

ZOO 1101 The Biology of Food

ZOO 1101 Natural History: Past, Present, and Future

Human Culture (H)

AAST 3000 African American Music

AAST 3260 African Spirits in the New World

AAST 3933 African Philosophy

AAST 4075 Culture, Identity, and Place

AGEC 1010 Principles of Macro Economics

AGEC 1020 Principles of Micro Economics

AGEC 3860 World, Food, Agriculture, and Development

AGEC 4600 Community Economic Analysis

AMST 2010 Introduction to American Studies

AMST 2110 Cultural Diversity in America

AMST 4075 Culture, Identity, and Place

AMST 4430 Queer Theory

AMST 4550 American Southwest

AMST 4660 Methods of Social Justice

ANTH 1200 Introduction to Cultural Anthropology

ANTH 1325 Wyoming Archaeology

ANTH 1450 World Archaeology

ANTH 2600 Forgotten Africa: Introduction to African Civilizations

ANTH 3400 Hunters & Gatherers

ANTH 4075 Culture, Identity, and Place

ARBC 1010 First Year Arabic I

ARBC 1020 First Year Arabic II

ARE 3030 History of Architecture

ART 1001 Art & Human Culture

ART 2010 Art History Survey I

ART 2020 Art History Survey II

ART 3030 History of Architecture

CHIN 1010 First Year Chinese I

CHIN 1020 First Year Chinese II

CHIN 3160 See Movies, Touch China

CLAS 2020 Classical Greek Civilization

COMM 1000 Introduction to Mass Media

COMM 1030 Interpersonal Communication

COMM 1040 Introduction to Human Communication Theory

ECON 1000 Global Economic Issues

ECON 1010 Principles of Macro Economics

ECON 1020 Principles of Micro Economics

ECON 1300 Oil: Business, Culture, and Power

ECON 1400 Sports Economics

EDEL 2280 Literature for Children

EDST 2450 Foundations for Development and Learning

EDST 3480 The Diversity and the Politics of Schooling

ENGL 1080 Intro to Women's Studies

ENGL 2360 Mexican-American Literature

ENGL 2420 Literary Genres

ENGL 2440 English Rhetoric in Writing Pedagogy

ENGL 3340 Philosophy of Literature

ENGL 4470 Chicano Folklore

ENGL 4640 Chicana Perspectives

ENR 2300 Foundations of Sustainability

ENR 2345 Natural Resource Ethics

ENR 3000 Approaches to the ENR Problem Solving

ERS 1300 Oil: Business, Culture, and Power

ERS 4482 Global Climate Governance

ES 3010 Culture & Engineering in Latin America

FCSC 1180 Applied Design

FCSC 2165 Introduction to Fashion & Dress

FCSC 3220 Multicultural Influences on Children and Families

FREN 1010 First Year French I

FREN 1020 First Year French II

FREN 2030 Second Year French I

FREN 2040 Second Year French II

FREN 2130 Contemporary French Culture

GEOG 1000 World Regional Geography

GEOG 1020 Human Geography

GEOG 2370 Chicano/a History Origins to 1900

GEOG 2385 Chicano History: 1900 to Present

GEOG 4355 Sustainable Planning and Urban Policies

GEOG 4560 Global Cities

GERM 1010 First Year German I

GERM 1020 First Year German II

GERM 2030 Second Year German I

GERM 2040 Second Year German II

GERM 3060 Introduction to German Literature

GWST 1080 Intro to Women's Studies

GWST 2000 Intro to LGBTQ/NS Studies

GWST 2700 Gender and Disability

GWST 3200 Chicana Perspectives

GWST 4075 Culture, Identity, and Place

GWST 4430 Queer Theory

GWST 4550 American Southwest

GWST 4660 Methods of Social Justice

HIST 1110 Western Civilization

HIST 1320 World History to 1750

HIST 2225 History of Christianity

HIST 2250 American Religious History I

HIST 2252 American Religious History II

HIST 2310 Buddhism

HIST 2315 History of Non-Western Religions

HIST 2370 Chicano/a History Origins to 1900

HIST 2380 Latin American Civilizations

HIST 2385 Chicano History: 1900 to Present

HIST 2600 Forgotten Africa: Introduction to African Civilizations

HIST 3280 Tibetan Buddhism

HIST 4340 Social History of American Women

HIST 4405 American Encounters to 1850

HIST 4406 American Encounters from 1850

HIST 4410 American in an Early Modern World

HIST 4415 Entangled Worlds, Entangled Lives: Indigenous People and Colonizers before 1850

HIST 4462 American Indian History to 1783

HIST 4463 American Indian History to 1890

HLED 1006 Personal Health

HP 3152 Topics: Global Perspectives

HP 3154 Topics: Global Perspectives

HP 3155 Topics: Global Perspectives

HP 4152 Topics Course

HP 4155 Topics Course

HP 4154 Topics Course

INST 1060 World Regional Geography

INST 3933 African Philosophy

INST 4355 Sustainable Planning and Urban Policies

INST 4560 Global Cities

INST 4990 Global Justice

JAPN 1010 First Year Japanese I

JAPN 1020 First Year Japanese II

KIN 2050 Socio-Cultural Aspects of Physical Activity, Exercise and Sport

LATN 1010 First Year Latin, I

LATN 1020 First Year Latin, II

LTST 1300 Intro to Latina/o Studies

LTST 2360 Mexican-American Literature

LTST 2370 Chicano/a History Origins to 1900

LTST 2385 Chicano History: 1900 to Present

LTST 3200 Chicana Perspectives

LTST 4075 Culture, Identity, and Place

LTST 4470 Chicano Folklore

LTST 4450 American Southwest

LTST 4660 Methods of Social Justice

MUSC 1000 Intro to Music

MUSC 1390 Jazz Ensemble: Lower

MUSC 1400 Collegiate Chorale I

MUSC 1405 Singing Statesmen I

MUSC 1415 Bel Canto I

MUSC 1417 Civic Chorus I

MUSC 1430 Symphony Orchestra I

MUSC 3390 Jazz Ensemble: Upper

MUSC 3400 Collegiate Chorale II

MUSC 3405 Singing Statesmen II

MUSC 3415 Bel Canto II

MUSC 3417 Civic Chorus II

MUSC 3430 Symphony Orchestra II

MUSC 4350 History and Literature of Jazz

MUSC 4490 History of Rock and Roll

NAIS 4075 Culture, Identity, and Place

NAIS 4462 American Indian History to 1783

NAIS 4463 American Indian History to 1890

NAIS 4550 American Southwest

PHIL 1000 Introduction to Philosophy

PHIL 2300 Ethics in Practice

PHIL 2345 Natural Resource Ethics

PHIL 2420 Critical Thinking

PHIL 3100 History of Modern Philosophy: The Rationalist

PHIL 3110 History of Modern Philosophy: The Empiricists

PHIL 3120 Ancient Greek Philosophy

PHIL 3220 Existentialism & Phenomenology

PHIL 3250 Global Justice

PHIL 3260 Seeking Justice & Equality

PHIL 3300 Ethical Theory

PHIL 3320 Eastern Thought

PHIL 3340 Philosophy of Literature

PHIL 3350 Ethics With the Greats

PHIL 3440 Philosophy of Mind

PHIL 3510 Introduction to Epistemology

PHIL 3560 Introduction to Metaphysics

PHIL 3933 African Philosophy

PHIL 4270 Buddhist Ethics

POLS 3260 Seeking Justice & Equality

POLS 4355 Sustainable Planning and Urban Policies

PSYC 1000 General Psychology

RELI 1000 Introduction to Religion

RELI 2050 Religions of Asia

RELI 2110 Introduction to the Old Testament

RELI 2150 New Testament Survey

RELI 2225 History of Christianity

RELI 2250 American Religious History I

RELI 2252 American Religious History II

RELI 2310 Buddhism

RELI 2315 History of Non-Western Religions

RELI 2330 Islam in the Modern World

RELI 2410 Varieties of Non-Belief

RELI 3090 Middle East and Israel in Film

RELI 3200 Religion and American Culture

RELI 3260 African Spirits in the New World

RELI 3280 Tibetan Buddhism

RELI 3320 Eastern Thought

RELI 4270 Buddhist Ethics

SOC 1000 Sociological Principles

SOC 4075 Culture, Identity, and Place

SPAN 1010 First Year Spanish I

SPAN 1020 First Year Spanish II

SPAN 2030 Second Year Spanish I

SPAN 2040 Second Year Spanish II

SPPA 2110 American Sign Language I

SPPA 2120 American Sign Language II

SPPA 4070 Deaf Studies

THEA 1000 Introduction to Theatre

THEA 1100 Beginning Acting

THEA 1200 Introduction to Design

THEA 1410 Ballet I/I

THEA 1420 Ballet I/II

THEA 1430 Modern Dance I/I

THEA 1440 Modern Dance I/II

THEA 1480 Beginning Jazz Dance

THEA 2200 Backgrounds of Dance

THEA 2480 Jazz II

UWYO 1000 Veteran Transition I: Hidden Curriculum - Hidden Culture

WIND 2100 Introduction to Disability Studies

WIND 2700 Gender and Disability

ZOO 4152 The Art and History of Medicine

Physical and Natural World (PN)

ANTH 1100 Introduction to Biological Anthropology

ANTH 1300 Introduction to Archaeology

ASTR 1050 Survey of Astronomy

ASTR 1070 The Earth: Its Physical Environment

ASTR 2310 General Astronomy I

ASTR 2320 General Astronomy II

ATSC 2000 Introduction to Meteorology

ATSC 2100 Global Warming: The Science of Humankinds Energy Consumption

ATSC 2200 Severe & Unusual Weather

CHEM 1000 Introductory Chemistry

CHEM 1020 General Chemistry I

CHEM 1030 General Chemistry II

CHEM 1050 Advanced General Chemistry I

CHEM 1060 Advanced General Chemistry II

ENR 1000 Energy and Society

ENR 1200 Environment

ENR 1500 Water, Dirt and Earth's Environment

ENTO 1000 Insect Biology

ERS 1000 Energy and Society

ESS 1000 Wyoming in the Earth System

FCSC 1410 Scientific Study of Food

FCSC 3171 Introduction to Textile Science

FDSC 1410 Scientific Study of Food

GEOG 1010 Introduction to Physical Geography

GEOL 1050 Gold and the American West

GEOL 1060 Geology of the National Parks

GEOL 1070 The Earth: Its Physical Environment

GEOL 1100 Introduction to Physical Geology

GEOL 1450 Solving Problems for a Sustainable Future

GEOL 1500 Water, Dirt and Earth's Environment

GEOL 1650 The Water-Energy-Climate Nexus

GEOL 3600 Earth and Mineral Resources

GEOL 3650 Energy for Society: Addressing the Energy Grand Challenge

GIST 2160 Survey of Remote Sensing Applications

HP 3153 Topics: Global Perspectives

HP 4153 Topics Course

LIFE 1002 Discovering Science

LIFE 1003 Current Issues in Biology

LIFE 1010 General Biology

LIFE 1020 Life Sciences

MOLB 1050 Genetic Engineering & Synthetic Biology

PHYS 1050 Concepts of Physics

PHYS 1090 Fundamentals of the Physical Universe

PHYS 1110 General Physics I

PHYS 1120 General Physics II

PHYS 1210 Engineering Physics I

PHYS 1220 Engineering Physics II

PLNT 1000 Agroecology

PLNT 2025 Horticultural Science

RNEW 1000 Wyoming Wildlands: Science & Stewardship

Quantitative Reasoning (Q)

COSC 1015 Introduction to Programming for Data Science

GEOL 2120 Quantitative Geo-methods

LIFE 2100 Research & Analysis

MATH 1000 Problem Solving

MATH 1050 Finite Mathematics

MATH 1105 Data, Probability, & Algebra for Elementary School Teachers

MATH 1123 Math, Music and Acoustics

MATH 1400 College Algebra

MATH 1405 Trigonometry

MATH 1450 Algebra and Trigonometry

MATH 2200 Calculus I

MATH 2205 Calculus II

MATH 2350 Business Calculus

STAT 2000 Statistics and the World

STAT 2050 Fundamentals in Statistics

STAT 2070 Introductory Statistics for the Social Sciences

U.S. and Wyoming Constitutions (V)

ECON 1200 Economics, Law, and Government

HIST 1211 US to 1865

HIST 1221 US from 1865

HIST 1251 History of Wyoming

HP 1200 People in Policy: Situation American Identity & Meaning Within US Law

POLS 1000 American and Wyoming Government

POLS 1100 Wyoming Government*

* will only meet Wyoming portion of V requirement. Will be able to use this in combination with US Constitutions course (transferred)

Armed Forces Services

Armed Forces Services

LTC Paul W. Hanson, Commander, Army ROTC
Lt Col John D. Sieps, Commander, Air Force ROTC

It has been the consistent policy of the university in cooperation with the federal government to make courses in military science and aerospace studies available on a voluntary basis to all qualified students.

Academic credits for Army and Air Force Reserve Officers' Training Corps (ROTC) are applied toward baccalaureate and graduate degrees in varying amounts depending upon the degree plan of the student and as determined by the college concerned.

Department of Military Science

Army ROTC

137 Hill Hall, (307) 766-3390
FAX: (307) 766-3383
Web site: www.uwyo.edu/armyrotc

Professor:

JONATHAN CURTIS, U.S. Military, Military Intelligence West Point B.S.; MSA Central Michigan University 2019; Professor of Militrary Science 2020.

Lecturer:

JEREMIAH SCHUCHARDT, Master Sergeant, U.S. Army; Senior Military Instructor 2019.

The Department of Military Science - Army ROTC faculty is composed of U.S. Army officers and senior noncommissioned officers. These officers hold bachelors' and masters' degrees in a variety of fields. Noncommissioned officers hold associate degrees in a variety of fields. Officers' military education includes completion of the Officer Basic Course and the Officer Advanced Course. Several faculty are graduates of the Army's Command and General Staff College and have completed military specialty schools such as: Flight School, Ranger School, Airborne School, Air Assault School, Special Forces School, Jumpmaster Course, Special Operations Training and Language School.

General Information

Army ROTC is a program which offers qualified college students the opportunity to graduate as officers and serve tours in the U.S. Army, the Army National Guard or the U.S. Army Reserve. The four-year program is divided into two

parts called the basic course and the advanced course. The basic course, consisting of 8 credit hours, is usually taken during the first two years of college. No military obligation is incurred by enrolling in the basic course.

The advanced course, usually taken during the junior and senior years or during graduate school, involves 19 credit hours of study and a five-week Leadership Development and Assessment Course during the summer. Advanced course students incur a military obligation, and they receive up to $500.00 per month in tax-free subsistence throughout the academic year.

Army ROTC is not itself a major. Participants pursue the degree of their choice and take Army ROTC as an elective program. Those who complete the program may receive federal commissions from the President of the United States.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

ARMY 3010.....3

ARMY 3020.....3

ARMY 3025.....1

ARMY 3026.....1

ARMY 3030.....3

ARMY 4010.....2

ARMY 4020.....2

ARMY 4015.....1

ARMY 4016.....1

ARMY 4025.....1

ARMY 4026.....1

HIST 2020 or HP 4900.....3

Total credit hours 22

The military science minor, encompassing 22 credit hours, will prepare selected students for commissioning and establish a sound basis for their future professional development.

To be eligible for a commission, U. S. citizens must meet prescribed physical, intellectual, and moral standards in addition to completing Army ROTC studies and successful completion of Professional Military Education (PME) courses. These PME courses include written communication skills, military history and computer literacy. A two-year option is available for sophomore and junior students, students with prior military service (see below), and those completing a masters program.

In the Army ROTC classroom the student is exposed to a wide variety of subjects designed to instill confidence, self-discipline, integrity and responsibility. Students gain an appreciation for the role of national defense, and learn what a leader must be, know and do in order to gain the respect and support of their subordinates.

Skills learned in Army ROTC, including resource management, leadership and planning are valuable and complement any university major. Young commissioned officers returning to civilian sectors after military service find an abundance of career opportunities.

Uniforms, Pay and Allowances

All uniforms, books and other instructional materials required in Army ROTC are provided to basic and advance course students at no cost. The cadet uniform is the same as the U.S. Army uniform except for the distinctive ROTC insignia.

Advanced course participants are paid a tax-free subsistence allowance of up to $500.00 per month during the school year. During the summer training period students receive pay, travel, rations, quarters, clothing, and medical and dental services.

Two Year ROTC Program

The two-year program is designed for community college graduates and university students of sophomore or junior standing who did not take Army ROTC during the first two years of school. The program may also apply to seniors and graduates who have at least two years remaining in post graduate study.

To enter the two-year program, students must first attend a paid 28-day internship during the summer or be a veteran who has graduated from advanced individual training.

Special Scholarship Program

pecial Scholarship Program Two-, three-, and four-year scholarships are offered by Army ROTC. These scholarships pay full tuition, laboratory fees and a $1200 per year book fee. While on scholarship, the student receives up to $500.00 a month during the school year. In addition to active duty scholarships, Army ROTC offers scholarships to students wishing to join the U.S. Army Reserve or Army National Guard upon commissioning. These reserve scholarships also pay full tuition, laboratory fees, book fees, and up to $500.00 a month. Graduate students and undergraduate students are eligible to apply for the two- and three-year scholarships. These scholarships are awarded by the Professor of Military Science. Students do not have to be enrolled in ROTC to apply for these scholarships. Certain restrictions apply. High school juniors and seniors seeking a four-year scholarship should contact the Professor of Military Science, Army ROTC, Dept. 3167, 1000 E. University Ave., Laramie, WY 82071. College students desiring a scholarship should contact the Professor of Military Science in 154 Wyoming Hall, (307) 766-3390.

Scholarships are offered to ROTC cadets from several military associations. The Reserve Officers Association (ROA), Association of the U.S. Army (AUSA), Cowboy Battalion Alumni Association (CBAA), the United Services Automobile Association (USAA) and First Command offer annual cash awards to ROTC cadets.

Room and board scholarships are available to students who enroll in Army ROTC. Scholarship awards are based on merit and the student's potential to become a commissioned officer. The number of scholarships and dollar amount vary dependent on funds available. Room and board scholarships may only be used in UW residence halls or university apartments.

Leadership Laboratory

Leadership laboratory provides instruction that complements the classroom. This time provides practical application on subject matter taught in class. Leadership and management dynamics are inherent in this practical application. All students enrolled in a military science course must enroll in the appropriate leadership laboratory unless consent is obtained from the Professor of Military Science. Training includes land navigation, first aid, communications, basic rifle marksmanship, drill and ceremonies, decision making, squad movement and problem solving. This instruction is

cadet planned and presented with immediate instructor feedback. The goals of this period are to instill self-confidence, self-discipline and responsibility in each cadet.

Land navigation skills are practiced in a variety of terrain locations near campus. The training instills trust and confidence in the cadet's ability to accurately plot and follow a compass course. Communication, such as radio, telephone and interpersonal skills, are taught and practiced. Marksmanship is taught in the Half-Acre rifle range and on other ranges, weather permitting. Finally, drill and ceremonies teaches methods of organizing and moving groups of individuals in an orderly manner resulting in team building while establishing esprit de corps.

Veterans' Option

Veterans of active military service and members of the National Guard or U.S. Army Reserve may qualify to go directly into the advanced Army ROTC program if they will be an academic junior. In these cases, basic training fulfills the requirement of the first two years of ROTC (Basic Course). Academic freshmen and sophomores are not required to take basic course classes but are highly encouraged to do so. It is common for members of the National Guard to study to become commissioned officers via the ROTC program. The Simultaneous Membership Program (SMP) is a formalized program for advanced course Guard members and Reservists to combine their unit training with ROTC training. In many cases the SMP program will result in increased financial benefit to the individual.

Military Obligation

There is no military obligation for taking the basic course, freshman and sophomore years. When an individual starts the advanced course, he or she incurs an obligation. The nature of that obligation depends upon whether the individual elects to serve in the National Guard, the Army Reserve or the active Army, and whether the individual has an Army scholarship. Those who desire guard or reserve duty may contract specifically for that purpose. The guard and reserve obligation is six years of monthly training meetings and two years of inactive ready reserve (IRR). The active duty obligation is four years Active duty, and four years of inactive ready reserve (IRR).

Extracurricular Activities

Army ROTC offers a variety of activities which are designed to promote an interest in the military and provide relaxing, enjoyable leisure activities for cadets.

The Cowboy Battalion has its own Ranger Challenge team, which is a varsity-level team that competes with other universities in military skills such as orienteering and soldier skills. The battalion also has a cannon crew, mounted color guard, 10-miler team, Bataan Death March team, and participates in intramural sports.

The department periodically sponsors other activities such as rapelling demonstrations, ranger weekends, battlefield tours, leadership exercises and other adventure training, such as mountaineering, land navigation exercises, patrolling and wilderness survival.

Suggested Course Sequence

FRESHMAN YEAR:Fall Hrs.

ARMY 1010 2

Lab (mandatory).....0

PEAC 1272 (voluntary).....1/2

ARMY 1011 1

ARMY 3060 (voluntary).....1

FRESHMAN YEAR: Spring Hrs.

ARMY 1020.....2

Lab (mandatory).....0

ARMY 1012 1

SOPHOMORE YEAR: Fall Hrs.

ARMY 2010.....2

Lab (mandatory).....0

ARMY 2011.....1

ARMY 2060 (voluntary).....2

ARMY 3070 (voluntary).....2

SOPHOMORE YEAR: Spring Hrs.

ARMY 2020.....2

Lab (mandatory).....0

AMRY 2012.....1

HIST 2020 (mandatory).....3

JUNIOR YEAR: Fall Hrs.

ARMY 3010.....3

Lab (mandatory).....0

ARMY 3011 1

ARMY 3025 (mandatory).....1

ARMY 3070 (voluntary).....2

ARMY 3015.....1

JUNIOR YEAR: Spring Hrs.

ARMY 3020.....3

Lab (mandatory).....0

ARMY 3012.....1

ARMY 3026 (mandatory).....1

ARMY 3016 (mandatory).....1

SENIOR YEAR: Fall Hrs.

ARMY 4010.....2

Lab (mandatory).....0

ARMY 4011.....1

ARMY 3030 (voluntary).....3

ARMY 4025 (mandatory).....1

ARMY 4015 (mandatory).....1

ARMY 4050 (voluntary).....2

ARMY 3070 (voluntary).....2

SENIOR YEAR: Spring Hrs.

ARMY 4020.....2

Lab (mandatory).....0

ARMY 4012.....1

ARMY 4026 (mandatory).....1

ARMY 4016 (mandatory).....1

Minor

Army ROTC Military Science Minor

The military science minor, encompassing 22 credit hours, will prepare selected students for commissioning and establish a sound basis for their future professional development.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

Minor Requirements

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

- ARMY 3010 - Training Management & Warfighting Functions Credits: 1
- ARMY 3020 - Applied Leadership in Small Unit Operations Credits: 3
- ARMY 3025 - Conduct of Training Credits: 1
- ARMY 3026 - Assessment of Training Credits: 1
- ARMY 3030 - Practicum in Leadership Credits: 3
- ARMY 4010 - The Army Officer Credits: 1
- ARMY 4020 - Company Grade Leadership Credits: 2
- ARMY 4015 - Staff Officer Practicum I Credits: 1

- ARMY 4016 - Staff Officer Practicum II Credits: 1
- ARMY 4025 - Principles of Training Management Credits: 1
- ARMY 4026 - Preparation of Training Credits: 1
- HIST 2020 - American Military History Credits: 3
  OR
- HP 4900 Credits: 3

Total Credit Hours: 22

Department of Aerospace Studies

Department of Aerospace Studies
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Professor:

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RICHARD LANDSVERK, Major, U.S. Air Force; B.S. Thomas Edison State College 2008; M.A. Bellevue University 2012; Professor of Aerospace Studies 2019.

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Air Force Reserve Officers' Training Corps (AFROTC) provides University of Wyoming students a path toward earning a commission as an officer in the United States Air Force. The curruculum provides college students a solid understanding of the leadership and military fundamentals an Air Force officer requires. AFROTC cadets supplement their normal university coursework with studies in Air Force fundamentals, history, leadership, and national security affairs. In addition, cadets have the opportunity to learn about various careers in the Air Force through their studies, guest lectures, base visits, and other military training opportunities. While enrolled in AFROTC, the Air Force provides uniforms, AFROTC textbooks, and the necessary Air Force equipment. Upon successful completion of the program and earning their bachelor's degree, cadets are commissioned as 2nd lieutenants in the U.S. Air Force.

Application and enrollment in the program is voluntary. Students should simply register for the appropriate Air Force (AIR) courses. In addition, prospective cadets will need to complete an application package upon arrival at the detachment in order to ensure minimum qualifications for military service. Contact the AFROTC Department for additional details or with any questions regarding registration. All university students, both male and female, are eligible to apply for admission in the program.

Four-Year Program

The four-year program is divided into two phases. The first two years comprise the General Military Course (GMC) consisting of one class period (1 hour) per week in the classroom and one class period (2 hours) per week in leadership laboratory. The GMC is a prerequisite for continuation in the Professional Officer Course (POC), the last two years in the program. Other prerequisites include passing the Air Force Officer Qualifying Test (AFOQT), maintaining at least a minimum grade point average of 2.0 (GMC) and 2.5 (POC), having the physical qualifications for an Air Force

commission, and participating in a four-week field training session. The advanced course consists of one class period (3 hours) per week in the classroom and one class period (2 hours) per week in leadership laboratory.

Three-Year Program

Students may enroll in ROTC on a three or three and one-half year program where the GMC component is shorter. To complete the GMC requirements, the student must simultaneously enroll in AIR 1000 and AIR 2000 courses to complete all four academic terms of the GMC program. After successfully completing the GMC program and Field Training, students may enter the two-year POC program. This program is especially suitable for sophomores and junior college transfers. Students that participated in high school Junior ROTC, or have prior-enlisted service, can apply documented participation toward a portion of the GMC requirement.

Leadership Laboratory

The concept of leadership laboratory is to provide leadership training experiences which will improve a cadet's ability to perform as a USAF officer. Leadership laboratory is largely cadet planned and directed.

Field Training

Field training is a four-week program conducted in residence at an Air Force base during the summer.

While at field training, each cadet is provided subsistence, uniforms/equipment, and receives approximately $28.00/day plus reimbursement for travel to and from the field training base.

Financial Benefits

Freshmen and Sophomores on AFROTC scholarships receive $300 and $350, per month, respectively. Juniors enrolled in the Professional Officers Course receive $450 per month and seniors $500 per month tax-free during the school year for subsistence. Uniforms, required texts and all necessary Air Force equipment are furnished by the government. In addition, all POC and scholarship cadets are allowed to travel anywhere in the continental United States on military aircraft (on a space available basis).

Special Scholarship Program

Two-, three- and four-year scholarships are offered by AFROTC on a competitive basis. These scholarships pay for a $900 book allowance per year, tuition (amount dependent on type of scholarship awarded), fees and other required expenses except room and board. The university and the State of Wyoming offer additional room and board funding to Air Force ROTC cadets (who have or have not been awarded an Air Force ROTC scholarship) and reside in university housing. High School seniors seeking a four-year scholarship should contact their high school counselors or the Recruiting Flight Commander, AFROTC Detachment 940, Dept. 3005, 1000 E. University Avenue, Laramie, WY 82071; telephone (307)766-3710; email at airforce.rotc@ uwyo.edu, early in the fall of their senior year. Sophomore or transfer students interested in competing for a scholarship should contact the Recruiting Flight Commander before the fall semester prior to junior standing.

Military Obligation

Students enrolling in the first two years of the AFROTC Program (the General Military Course) are not obligated to military service of any kind, unless on an Air Force scholarship their sophomore year. Cadets accepting an AFROTC scholarship and those entering the Professional Officer Course become members of the inactive reserve of the United States Air Force. Upon being commissioned a Second Lieutenant in the Air Force, graduates in nonflying career fields agree to serve four years on active duty; pilot candidates agree to serve on active duty for 10 years after completion of flight training; RPA, navigator, and air battle manager candidates agree to serve on active duty for six years after completion of their respective training.

Extracurricular Activities

To familiarize students with Air Force life and social customs, the AFROTC Program offers on a voluntary basis a wide range of extracurricular activities. Civil Air Patrol gives cadets an opportunity to experience flying first hand with a trained instructor pilot. The Arnold Air Society, a national professional honorary society, is a service organization active on campus. The color guard supports various university and local activities. Visits to Air Force bases across the nation provide insight into the function of Air Force operational units. Throughout the year, AFROTC teams participate in the university intramural sports program, while cadet-sponsored social events build the spirit of comradeship inherent in military life.

Minor

Aerospace Studies Minor

Air Force ROTC offers an Aerospace Studies minor.

The 24 credit hours required to accomplish the Aerospace Studies minor will effectively compliment many majors, provide a sound basis for future professional development, and increase the career opportunities of a UW graduate.

Minor Requirements

For the Aerospace Studies minor, the student must complete the core AFROTC program plus:

- 3 credit hours in any Management (MGT) course in the current UW catalog **AND**
- 3 credit hours in one Political Science (POLS) course listed below
  OR
- 6 credit hours of Political Science courses listed below.

Political Science

- POLS 1200 - Non-Western Political Cultures Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2300
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3

- POLS 4220
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4300
- POLS 4340 - International Organizations Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4870 - Seminar in International Relations Credits: 3

Faculty Index

Aadland, David	Economics	Professor
Adelt, Ulrich	Culture Gender & Social Justice	Professor
Adidharma, Hertanto	Energy & Petroleum Engineering	Professor
Ahern, James	School of Graduate Education Deans/VPs Office	Vice Provost/Dean/Professor, Graduate Education
Albers, Heidi	Economics	Professor/Wyo Excellence Chair
Alexander, Anne	Provosts Office	Vice Provost/Lecturer Sr ETT, Strategic Planning & Initiatives
Alexander, Brenda	Animal Science	Professor
Alexander, Klinton	College of Law Academic Depts	Dean/Professor
Alexander, Melissa	College of Law Deans Office	Professor
Allen, Gabrielle	School of Computing	Director/Professor
Alvarado, Vladimir	Chemical & Biomedical Engineering	Professor
Anderson, David	Chemistry	Professor
Anderson, Stephanie	Politics Public Affairs & International Studies	Department Head/Professor
Anton, David	Mathematics & Statistics	Lecturer,Sr ETT
Aragon, Cecelia	Theatre & Dance	Professor
Arndt, Kaitlin	Visual & Performing Arts	Visiting Asst Professor
Aronstein, Susan	College of Arts & Sciences Deans Office	Assoc Dean/Professor
Bagley, David	Engineering & Applied Science Deans Office	Assoc Dean/Professor
Baldwin, Nikki	School of Teacher Education	Lecturer,Sr
Banks, Jason	Theatre & Dance	Lecturer,Asst
Barker, Michael	Civil & Architectural Engineering & Construction Management	Professor

Barrett, Steven	Provosts Office	Vice Provost/Professor, Undergraduate Education
Bartlett, Jessica	School of Nursing	Lecturer,Asst
Basile, Francisco	Chemistry	Professor
Bastian, Chris	Agriculture & Applied Economics	Professor
Beach, Megan	School of Nursing	Lecturer,Asst
Beaulier, Scott	College of Business Deans Office	Dean/Professor
Beck, Jeffrey	Ecosystem Science & Management	Professor
Beckett, Carla	Chemistry	Lecturer,Sr ETT
Belmont, Erica	Mechanical Engineering	Department Head/Assoc Prof
Belser, Robert	Music	Professor
Ben-David, Merav	Zoology & Physiology	Professor
Benkman, Craig	Zoology & Physiology	Professor
Bennett, Drew	Haub School of Environment & Natural Resources	Professor of Practice
Bennick, Rebekah	Accounting & Finance	Lecturer,Asst
Bergstraesser, Paul	English	Lecturer,Sr ETT
Bialostok, Steven	School of Teacher Education	Professor
Bicer, Aysenur	Physics & Astronomy	Lecturer,Asst
Billington, Corey	Management & Marketing	Professor of Practice
Bingham, Beau	Communication & Journalism	Lecturer,Sr
Bird, Michele	Mathematics & Statistics	Lecturer,Asst
Bisha, Bledar	Animal Science	Department Head/Assoc Prof
Bjorkenwall, Ruth	Politics Public Affairs & International Studies	Lecturer,Assoc ETT
Bodily, Kerry	School of Nursing	Lecturer,Assoc
Bogard, Theresa	Music	Professor
Boggs, Christine	Ellbogen Center for Teaching & Learning	Lecturer,Sr
Boggs, Shirley	School of Nursing	Lecturer,Asst
Bourque, Margaret	Haub School of Environment & Natural Resources	Lecturer,Assoc
Brant, Jonathan	Civil & Architectural Engineering & Construction Management	Professor
Bridgeman, Jacquelyn	Culture Gender & Social Justice	Department Head/Professor

Brock, Cynthia	School of Teacher Education	Professor/Wyo Excellence Chair
Brotherton, Michael	Physics & Astronomy	Professor
Brown, Antoinette	School of Pharmacy	Lecturer,Assoc ETT
Brown, Emily	Provosts Office	Lecturer,Asst
Brown, Gregory	Botany	Professor
Bruch, David	School of Pharmacy	Lecturer,Assoc ETT
Brummond, Karagh	Honors College	Instructional Professor, Asst
Buckner, Kim	Electrical Engineering & Computer Science	Lecturer,Sr ETT
Burchett, Ashley	English	Lecturer,Asst
Buss, Alan	School of Teacher Education	Director/Professor, School of Teacher Ed
Carlisle, Ashley	Visual & Performing Arts	Professor
Carlson, Courtney	Haub School of Environment & Natural Resources	Lecturer,Asst
Cassady, Joslyn	Honors College	Instructional Professor, Asst
Cawley, Robert	Politics Public Affairs & International Studies	Professor
Chamberlin, Scott	School of Teacher Education	Professor
Chapman, Billie	Social Work	Lecturer,Asst
Cheadle, Michael	Geology & Geophysics	Professor
Chen, Kui	Chemistry	Lecturer,Asst
Cherry, Todd	Economics	Professor
Chestek, Kenneth	College of Law Deans Office	Professor
Chitnis, Parag	VP for Research & Economic Development Office	Vice President/Professor, Research & Economic Development
Clapp, Tara	Psychology	Lecturer,Assoc ETT
Clark, Kayla	Haub School of Environment & Natural Resources	Lecturer,Asst
Clements, Nathan	Mathematics & Statistics	Lecturer,Assoc ETT
Clementz, Mark	Geology & Geophysics	Department Head/Professor
Cochran, Isabella	Early Care & Education Center	Lecturer,Asst
Codallos, Kym	Social Work	Lecturer,Assoc
Collier, Timothy	Ecosystem Science & Management	Department Head/Assoc Prof
Colter, Robert	Philosophy & Religious Studies	Dept Head/Lecturer, Sr

Connolly, Catherine	Culture Gender & Social Justice	Professor
Considine, Timothy	Economics	Professor
Couch, Julianne	English	Lecturer,Asst
Coupal, Roger	Agriculture & Applied Economics	Professor
Cover, Danielle	College of Law Deans Office	Professor/Wyo Excellence Chair
Covin, Jeffrey	Management & Marketing	Visiting Professor
Crait, Jamie	Botany	Lecturer,Asst
Crane, Kelly	UW Extension	Assoc Dean/Director/Ext. Educator, Senior ETT
Cruz, Charlie	School of Pharmacy	Lecturer,Assoc
Currano, Ellen	Botany	Professor
Cuthbertson, Douglas	Energy & Petroleum Engineering	Professor of Practice
Dahnovsky, Yuri	Physics & Astronomy	Professor
Dai, Boyi	Kinesiology & Health	Professor
Dale, Daniel	Engineering & Applied Science Deans Office	Assoc Dean/Professor
Dallarosa, Tessa	Visual & Performing Arts	Visiting Asst Professor
De Lozier, Laura	Modern & Classical Languages	Lecturer,Sr
Decker, Bridget	Molecular Biology	Lecturer,Assoc
Delaney, James	College of Law Deans Office	Professor
Demir, Aysegul	Civil & Architectural Engineering & Construction Management	Instructional Professor, Asst
Denzer, Anthony	Civil & Architectural Engineering & Construction Management	Department Head/Professor
Desai, Dheer Noal	Mathematics & Statistics	Visiting Asst Professor
Dillon, Michael	Zoology & Physiology	Professor
Domenech, Concepcio	Modern & Classical Languages	Professor
Douglas, Craig	Mathematics & Statistics	Professor
Drummond, Kent	English	Professor
Dutta, Debashis	Chemistry	Department Head/Professor
Dziedzic, Charli	School of Teacher Education	Lecturer,Asst
Eaton, Weston	Haub School of Environment & Natural Resources	Visiting Asst Professor

Eckersley, Tracy	Visual & Performing Arts	Lecturer,Asst
Eldridge, Landon	Animal Science	Lecturer,Asst
Enlow, Irene	LeaRN Programs	Lecturer,Asst
Erikson, Robert	Engineering & Applied Science Deans Office	Lecturer,Sr ETT
Erlandson, Erik	Music	Lecturer,Asst
Estes, Karen	College of Arts & Sciences Deans Office	Assoc Dean/Professor
Ewers, Brent	Botany	Director/Professor
Fadial, John	Music	Professor
Fall, Tyler	Philosophy & Religious Studies	Lecturer,Sr
Fan, Maohong	Energy & Petroleum Engineering	Professor
Fay, David	Molecular Biology	Professor
Feddersen, Jesse	Physics & Astronomy	Lecturer,Asst
Fetsco, Daniel	Criminal Justice & Sociology	Lecturer,Asst
Finnoff, David	Economics	Professor
Fisher, Richard	English	Lecturer, Sr/Interim Director
Flagg, Will	Music	Lecturer,Asst
Flesher, Paul	American Heritage Center	Director/Professor
Flores Matute, Jorge Armando	Mathematics & Statistics	Lecturer,Asst
Fox, Jonathan	Veterinary Science	Department Head/Professor
French, Jeffrey	Atmospheric Science	Department Head/Assoc Prof
Freng, Adrienne	Criminal Justice & Sociology	Professor
Freng, Scott	Psychology	Lecturer,Sr ETT
Freude, Juliana	Theatre & Dance	Lecturer,Asst
Frith, Kimberly	Civil & Architectural Engineering & Construction Management	Lecturer,Asst
Frome, Casey	Management & Marketing	Lecturer,Asst
Gaechter, Lacey	Kinesiology & Health	Lecturer,Asst
Gaetz, Ivan	Libraries Administrative Office	Dean
Gamboa, Ruben	Electrical Engineering & Computer Science	Professor

Garner, Andrew	Politics Public Affairs & International Studies	Professor
Garrison, Jean	Politics Public Affairs & International Studies	Professor
Gasem, Khaled	Energy & Petroleum Engineering	Professor
Gatlin, Jesse	Molecular Biology	Department Head/Professor
Geerts, Bart	Atmospheric Science	Professor
Geringer, Jennifer	School of Teacher Education	Lecturer,Assoc
Gernant, Allison	LeaRN Programs	Lecturer,Asst
Gerow, Kenneth	Mathematics & Statistics	Professor
Ginting, Victor	Mathematics & Statistics	Professor
Glover, Mark	College of Law Deans Office	Professor
Goheen, Jacob	Zoology & Physiology	Professor
Goheen-Smith, Sandra	Kinesiology & Health	Lecturer,Asst
Gomelsky, Mark	Molecular Biology	Professor
Goodin, Susanna	Philosophy & Religious Studies	Professor
Goual, Lamia	Energy & Petroleum Engineering	Professor
Gould, Albert	Management & Marketing	Lecturer,Asst
Grana, Dario	Geology & Geophysics	Professor/Wyo Excellence Chair
Grant III, Thomas	Honors College	Instructional Professor, Asst
Gray, Lindy	School of Nursing	Lecturer,Asst
Gray, Matthew	Psychology	Professor
Green, Sarah	Social Work	Lecturer,Asst
Griffith, Michael	Music	Professor
Griffiths, Shawn	Civil & Architectural Engineering & Construction Management	Instructional Professor, Assoc
Guiberson, Mark	Communication Disorders	Director/Professor
Gunderson, James	Accounting & Finance	Lecturer,Asst
Gustafson, Kimberly	School of Teacher Education	Lecturer,Sr ETT
Hagy, Alyson	Visual & Performing Arts	Professor
Hammontree, Ian	Chemical & Biomedical Engineering	Lecturer,Asst
Hampton, Melissa	History	Lecturer,Asst

Hardy, Leah	Visual & Performing Arts	Professor
Harkin, Alison	Culture Gender & Social Justice	Lecturer,Asst
Harkin, Michael	Anthropology	Professor
Hart, Ann	School of Nursing	Professor
Hartsky, Esther	Communication Disorders	Lecturer,Asst
Hartung, Cynthia	Psychology	Professor
Heaney, April	LeaRN Programs	Director/Lecturer,Sr ETT
Heinz, Petra	VP of Global Engagement	Lecturer,Assoc ETT
Heinz, Stefan	Mathematics & Statistics	Professor
Heitholt, James	R&E Center Powell	Director/Professor
Helfgott, Isadora	VP of Global Engagement	Vice Provost/Assoc Professor, Global Engagement
Henderson, Leticia	Agriculture & Applied Economics	Lecturer,Asst
Henry, Matthew	Honors College	Instructional Professor, Asst
Herdt, Jascha	Culture Gender & Social Justice	Lecturer,Asst
Hime, Christine	Family & Consumer Sciences	Department Head/Assoc Prof
Hitchcock, John	Electrical Engineering & Computer Science	Professor
Hix, Harvey	Philosophy & Religious Studies	Professor
Hoberg, John	Chemistry	Professor
Holt, Kara	Counseling Leadership Advocacy & Design	Professor
Hoopes, Britney	Early Care & Education Center	Lecturer,Asst
Howe, Lori	Honors College	Instructional Professor, Asst
Hoyt, Lindsay	College of Law Academic Depts	Asst Dean
Hsu, Chia-Fang	Communication & Journalism	Professor
Humphrey, Neil	Geology & Geophysics	Professor
Hunt, Tiffany	Counseling Leadership Advocacy & Design	Lecturer,Assoc
Hutson, Shelby	LeaRN Programs	Lecturer,Asst
Ingwerson-Niemann, Jennifer	Animal Science	Lecturer,Assoc
Islam, Md	Plant Sciences	Professor
Jackson, Darrell	College of Law Deans Office	Professor

Jain, Dhawal	Civil & Architectural Engineering & Construction Management	Lecturer,Asst
Jarvis, Donald	Molecular Biology	Professor
Jenks, Maria	Management & Marketing	Lecturer,Asst
John, Barbara	Geology & Geophysics	Professor
Johnson, Catherine	LeaRN Programs	Lecturer,Asst
Johnson, Eric	Accounting & Finance	Professor
Johnson, James	Anthropology	Lecturer,Asst
Johnson, Patrick	Chemical & Biomedical Engineering	Department Head/Professor
Kalen, Sam	College of Law Deans Office	Assoc Dean/Professor
Kambutu, John	School of Teacher Education	Professor
Kaszuba, John	Geology & Geophysics	Professor
Katzmann, Jason	UW Casper	Lecturer,Assoc
Kelleners, Thijs	Ecosystem Science & Management	Professor
Keller, Mary	Philosophy & Religious Studies	Lecturer,Sr
Kelly, Robert	Anthropology	Professor
Kihn, Paula	School of Nursing	Lecturer,Assoc
King, Francesca	LeaRN Programs	Lecturer,Asst
King, James	Politics Public Affairs & International Studies	Professor
Kinney, Kelly	English	Department Head/Assoc Prof
Kitchen, Richard	School of Teacher Education	Professor/Wyo Excellence Chair
Kjorstad, Tyler	Economics	Lecturer,Asst
Klages, Ricki	Visual & Performing Arts	Professor
Kniss, Andrew	Plant Sciences	Department Head/Professor
Knobloch, Frieda	Culture Gender & Social Justice	Professor
Knox, Christina	Mathematics & Statistics	Lecturer,Asst
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Koprowski, John	Haub School of Environment & Natural Resources	Professor/Dean/Wyo Excellence Chair
Kornfeld, Marcel	Anthropology	Professor

Koski, Kristopher	School of Energy Resources Directors Office	Lecturer,Assoc
Koza, Jennifer	Accounting & Finance	Lecturer,Asst
Kreiser, Jennifer	Accounting & Finance	Lecturer,Sr
Kreiser, Patrick	Management & Marketing	Professor
Krszjzaniek, Eric	Management & Marketing	Lecturer,Asst
Krueger, Kem	School of Pharmacy	Dean/Assoc Professor
Ksaibati, Khaled	Civil & Architectural Engineering & Construction Management	Professor
Kubelka, Ginka	Chemistry	Lecturer,Assoc
Kuznetsova, Maria	Psychology	Lecturer,Sr
Laegreid, Renee	History	Professor
Laegreid, William	Wyoming State Veterinary Laboratory	Professor
Lair, Ashley	School of Nursing	Lecturer,Asst
Lake, Scott	R&E Center Laramie	Director/Professor
Landeira, Joy	Modern & Classical Languages	Department Head/Professor
Laughlin, Daniel	Botany	Professor
Layer, Jacob	Kinesiology & Health	Lecturer,Asst
Leach, Mark	Management & Marketing	Professor/Mendicino Chair
Lear, Janet	School of Teacher Education	Lecturer,Asst
Lee, Long	Mathematics & Statistics	Professor
Lee, Sarah	Family & Consumer Sciences	Lecturer,Asst
Lehmann, Teresa	Chemistry	Professor
Leonard, Brian	Chemistry	Professor
Leonard, Kalie	English	Lecturer,Asst
Levy, Daniel	Molecular Biology	Professor
Li-Oakey, Katie	Chemical & Biomedical Engineering	Professor
Limon, Shaila	Early Care & Education Center	Lecturer,Asst
Liu, Matthew	Communication & Journalism	Lecturer,Asst
Liu, Rongsong	Mathematics & Statistics	Professor
Livingston, Greg	Management & Marketing	Lecturer,Asst

Lockhart, Landee	Theatre & Dance	Lecturer,Asst
Lockwood, Jeffrey	Philosophy & Religious Studies	Professor
London-Gray, Billi	Visual & Performing Arts	Visiting Asst Professor
Lopez, Robyn	Culture Gender & Social Justice	Lecturer,Asst
Lyford, Mark	Botany	Lecturer,Sr ETT
Lynch, Liana	Botany	Instructional Professor, Asst
Macy, Shelley	Civil & Architectural Engineering & Construction Management	Lecturer,Asst
Mallick, Subhashis	Geology & Geophysics	Professor
Martinez, Trisha	Culture Gender & Social Justice	Lecturer,Asst
Mason, Charles	Economics	Professor
Mavriplis, Dimitri	Mechanical Engineering	Professor
Maxfield, Greta	Social Work	Lecturer,Asst
McBride, Rosemary	School of Teacher Education	Lecturer,Asst
McCoy, Rochelle	UW Casper	Lecturer,Asst
McCracken-Flesher, Caroline	English	Professor/Director, Center for Global Studies
McCrea, Sean	Psychology	Department Head/Professor
McCulley, Zachary	Theatre & Dance	Lecturer,Asst
McElroy, Brandon	Geology & Geophysics	Professor
McGee, Blake	Music	Professor
McInroy, John	Electrical Engineering & Computer Science	Professor
McKamey, Andrew	Accounting & Finance	Lecturer,Asst
McKibbin, Christine	Psychology	Professor
McLeod, Donald	Agriculture & Applied Economics	Professor
McMillan, Margaret	Wyoming Geographic Information Science Center	Instructional Professor
Means, Jeffrey	History	Department Head/Assoc Prof
Mercil, Amber	Accounting & Finance	Lecturer,Assoc
Michalak, Rudiger	Physics & Astronomy	Lecturer,Sr
Miles, Noah	Modern & Classical Languages	Lecturer,Asst

Miller, Jeffrey	Ellbogen Center for Teaching & Learning	Lecturer,Sr ETT
Miller, Scott	Ecosystem Science & Management	Professor
Miller, Steven	Botany	Professor
Minckley, Thomas	Geology & Geophysics	Professor
Mocsary, George	College of Law Deans Office	Professor
Monteith, Kevin	Haub School of Environment & Natural Resources	Professor/Wyo Excellence Chair
Moore, Elizabeth	Plant Sciences	Lecturer,Asst
Moorhouse, G.	Mathematics & Statistics	Professor
Moran, Peter	Counseling Leadership Advocacy & Design	Director/Professor, School of CLAD
Mouland, Dennis	Civil & Architectural Engineering & Construction Management	Lecturer,Assoc
Mukai, David	Engineering & Applied Science Deans Office	Assoc Dean/Assoc Professor
Muknahallipatna, Suresh	Electrical Engineering & Computer Science	Professor
Murphy, Melissa	Anthropology	Department Head/Professor
Myers, Adam	Physics & Astronomy	Professor
Myers, James	Geology & Geophysics	Professor
Nair, Sreejayan	School of Pharmacy	Professor
Naughton, Jonathan	Mechanical Engineering	Professor
Nejadmalayeri, Ali	Accounting & Finance	Professor
Nganga, Lydiah	School of Teacher Education	Professor
Nigh, Eric	Politics Public Affairs & International Studies	Lecturer,Asst
Niu, Zhuang	Mathematics & Statistics	Professor
Noble, Kent	Management & Marketing	Lecturer,Asst
North, Christopher	Botany	Instructional Professor, Assoc
Norton, Urszula	Plant Sciences	Professor
Novogrodsky, Noah	College of Law Deans Office	Professor
Noya Salgueiro, Adriana	Modern & Classical Languages	Lecturer,Asst
Nunez, Narina	College of Arts & Sciences Deans Office	Assoc Dean/Professor
O'Flannigan, Christy	Early Care & Education Center	Lecturer,Asst
Oakey, John	Chemical & Biomedical Engineering	Professor

Oiler, Pamela	Family Medicine Residency Programs Cheyenne	Lecturer,Assoc
Okpodu, Camellia	Botany	Professor
Oler, Laura	Electrical Engineering & Computer Science	Lecturer,Asst
Oler, Mitchell	Accounting & Finance	Dept Chair/Assoc Prof
Paige, Virginia	Ecosystem Science & Management	Professor
Parker, Sylvia	Science & Math Teaching Center	Lecturer,Sr ETT
Parolin, Peter	Honors College	Dean/Assoc Professor, Honors College
Patton, Tracey	English	Professor
Peck, Ann	Engineering & Applied Science Deans Office	Lecturer,Sr ETT
Pepper, Carolyn	Psychology	Professor
Perkins, Mark	Counseling Leadership Advocacy & Design	Asst Dean/Asst Professor
Petersen, Douglas	Communication Disorders	Professor
Peterson, Christian	Management & Marketing	Dept Chair/Professor
Pexton, Valerie	English	Lecturer,Sr ETT
Phillips, McKensie	Animal Science	Lecturer,Asst
Pickett, Brent	UW Casper	Dean/Professor
Pierre, John	Electrical Engineering & Computer Science	Professor
Pignataro, Margarita	Culture Gender & Social Justice	Lecturer,Asst
Piri, Mohammad	Energy & Petroleum Engineering	Professor/Wyo Excellence Chair
Playton, Dona	College of Law Deans Office	Professor
Porter, Christine	Kinesiology & Health	Professor/Wyo Excellence Chair
Prather, Jonathan	Life Science Program	Director/Professor
Price Schultz, Cynthia	Communication & Journalism	Department Head/Assoc Prof
Price, Linda	Management & Marketing	Professor
Pru, James	Animal Science	Professor & Rochelle Chair
Radosevich, Daniel	Electrical Engineering & Computer Science	Lecturer,Asst
Rahel, Frank	Zoology & Physiology	Professor
Rasco, Barbara	College of Agriculture & Natural Resources Deans Office	Dean/Professor
Rashford, Benjamin	Agriculture & Applied Economics	Department Head/Assoc Prof

Rasouli, Vamegh	Energy & Petroleum Engineering	Department Head/Professor
Rhoad, Amy	Veterinary Science	Instructional Professor, Asst
Riebe, Clifford	Geology & Geophysics	Professor
Righetti, Tara	College of Law Deans Office	Director/Professor
Riner, Nicole	Music	Visiting Asst Professor
Ritchie, Mark	Visual & Performing Arts	Professor
Robinson, Timothy	Mathematics & Statistics	Professor
Robison, Jason	College of Law Deans Office	Professor
Rodgers, Cheryl	School of Nursing	Lecturer,Asst
Romero, Alan	College of Law Deans Office	Professor
Root, Kaitlyn	Criminal Justice & Sociology	Lecturer,Asst
Russel, Bailey	Visual & Performing Arts	Lecturer,Assoc ETT
Russell, Douglas	Visual & Performing Arts	Department Head/Professor
Schneider, Shannon	School of Nursing	Lecturer,Asst
Schroer, Joseph	School of Teacher Education	Lecturer,Asst
Schuhmann, Robert	Politics Public Affairs & International Studies	Professor
Seeley, Janel	Ellbogen Center for Teaching & Learning	Director/Lecturer Assoc ETT, ECTL
Selting, Leigh	Honors College	Assoc Dean/Professor
Seville, Robert	Zoology & Physiology	Department Head/Professor
Shader, Bryan	Electrical Engineering & Computer Science	Professor
Shaw, Scott	Ecosystem Science & Management	Professor
Shim, Jenna	College of Education Deans Office	Assoc Dean/Professor
Shinker, Jacqueline	Geology & Geophysics	Professor
Shogren, Jason	Economics	Professor
Shuman, Bryan	Geology & Geophysics	Professor/Wyo Excellence Chair
Siceloff, Alisa	Kinesiology & Health	Lecturer,Asst
Simonton, Angela	Kinesiology & Health	Lecturer,Asst
Sims, Kenneth	Geology & Geophysics	Professor
Skiba, Alexandre	Economics	Dept Chair/Assoc Prof

Slater, Timothy	School of Teacher Education	Professor/Wyo Excellence Chair
Smith, Dagmara	UW Casper	Lecturer,Assoc
Smith, Marci	Kinesiology & Health	Lecturer,Sr ETT
Smith, Michael	College of Law Deans Office	Professor
Smith, Sherrill	School of Nursing	Dean/Director/Professor
Smutko, Leonard	Haub School of Environment & Natural Resources	Professor/Spicer/Wyo Excellence Chair/Assoc Dean
Smylie, Jahn	Early Care & Education Center	Lecturer,Asst
Sohier, Benedicte	Modern & Classical Languages	Lecturer,Sr
Sorensen, Bret	College of Education Deans Office	Lecturer,Asst
Sprague, Robert	Management & Marketing	Professor
Sprout Ahrenholtz, Treva	Family & Consumer Sciences	Lecturer,Sr ETT
Stewart, Joyce	English	Lecturer,Sr ETT
Stewart, Justin	Communication & Journalism	Lecturer,Sr ETT
Stewart, Margaret	Communication & Journalism	Lecturer,Asst
Stidolph, Candace	School of Nursing	Lecturer,Assoc
Stoesz, Erin	Physics & Astronomy	Lecturer,Asst
Strube, Kari	Mechanical Engineering	Lecturer,Asst
Studyvin, Jared	Mathematics & Statistics	Lecturer,Asst
Sun, Qian-Quan	Zoology & Physiology	Professor
Surovell, Todd	Anthropology	Professor
Swanner, Hosanna	Honors College	Lecturer,Asst
Swanner, Seth	LeaRN Programs	Lecturer,Asst
Taggart, Breezy	Honors College	Asst Dean
Taheri, Seyed Reza	Energy & Petroleum Engineering	Instructional Professor, Asst
Tang, Jinke	Physics & Astronomy	Department Head/Professor
Tank, David	Botany	Professor
Taylor, Zachary	Politics Public Affairs & International Studies	Lecturer,Asst
Teule-Finley, Florence	UW Casper	Lecturer,Assoc
Thomas, Scott	College of Education Deans Office	Dean/Professor/Executive Director

Thompson, Rod	School of Teacher Education	Lecturer,Assoc
Toelle, Brian	Energy & Petroleum Engineering	Professor of Practice
Treick, Philip	Accounting & Finance	Lecturer,Asst
Trent, Allen	School of Teacher Education	Professor
Turpen, Jennifer	Music	Lecturer,Sr ETT
Tuthill, Dorothy	Biodiversity Institute	Lecturer,Asst
Urynowicz, Michael	Civil & Architectural Engineering & Construction Management	Professor
Van Baalen-Wood, Margaret	Ellbogen Center for Teaching & Learning	Lecturer, Sr/Coord Instruct
Vanderborgh, Beth	Music	Professor
Veerakumar, Ramsankar	Mechanical Engineering	Instructional Professor, Asst
Vercoe, Richard	Haub School of Environment & Natural Resources	Lecturer,Asst
Vollbrecht, Susan	Music	Visiting Asst Professor
Wall, Daniel	Molecular Biology	Professor
Wallhead, Tristan	Kinesiology & Health	Professor/Asst Director
Ward, James	Electrical Engineering & Computer Science	Lecturer,Sr ETT
Warren, Christina	School of Nursing	Lecturer,Assoc
Warren, Jacob	College of Health Sciences Deans Office	Dean/Professor
Wasilik, Oksana	Ellbogen Center for Teaching & Learning	Lecturer,Assoc
Watson, Rachel	Kinesiology & Health	Lecturer,Sr ETT
Watts, Laura	Family Medicine Residency Programs Cheyenne	Lecturer,Asst
Weber, William	Mathematics & Statistics	Lecturer,Sr
Webster, Eric	Agricultural Experiment Station	Assoc Dean/Director/Professor
Weinig, Cynthia	Botany	Professor/Wyo Excellence Chair
Whitman, Sarah	School of Nursing	Lecturer,Asst
Wilkowski, Benjamin	Psychology	Professor
Williams, David	Botany	Professor
Williford, Jason	Mathematics & Statistics	Department Head/Professor
Willingham, Kassandra	Molecular Biology	Lecturer,Asst

Wilson, Margaret	Theatre & Dance	Department Head/Professor
Wiseman, Cedar	Mathematics & Statistics	Lecturer,Asst
Wodahl, Eric	Criminal Justice & Sociology	Department Head/Professor
Wofford, Teresa	Wyoming Institute for Disabilities WIND	Lecturer,Assoc
Wright, Cameron	Engineering & Applied Science Deans Office	Dean/Professor
Wulff, Shaun	Mathematics & Statistics	Professor
Zhang, Yan	Modern & Classical Languages	Lecturer,Sr
Zhang, Ye	Geology & Geophysics	Professor
Zhou, Jing	Chemistry	Professor
Zhu, Jianting	Civil & Architectural Engineering & Construction Management	Professor
Zhu, Qin	Kinesiology & Health	Professor
Zook, Katrina	Music	Department Head/Professor

Intercollegiate Athletics

- Mission Statement
- Guiding Principles
- General Information

Fieldhouse North
Thomas K. Burman, Director
Phone: (307)766-2292
Web site: wyomingathletics.com

BRYAN BERRYHILL, B.S. Colorado State University 2001; Head Track and Field/Cross Country Coach 2012.

MARK P. BRANCH, B.S. Oklahoma State University 1997; Masters in Athletic Administration 1999; Head Wrestling Coach 2008.

SAMUEL BRODIE, Associate A.D. for Business Operations, B.A., Criminal Justice, University of Wyoming, May 2018.

THOMAS K. BURMAN, B.S. University of Wyoming 1988; M.B.A. Robert Morris University 1991; Director of Intercollegiate Athletics 2006.

EDGAR DEAN CLOWER, B.A. Lamar University 2005; Head Women's Tennis Coach 2012.

MATT CHAPMAN, Assistant A.D. for Ticketing & Sales, B.A. in Athletic Training, Bethel University, May 2006; Master of Science in Higher Education Administration, St. Cloud State University, May 2022.

COLLEEN CORBIN , B.S. Oregon State University 2012; Head Women's Soccer Coach 2021.

MICHAEL COTTERMAN, B.S. Ohio University 1996; M.Ed. 1998; Director of Sports Performance - Olympic Sports 2015.

DAVE DENNISTON, B.A. Auburn University 2002; Head Swimming and Diving Coach 2017.

ROB DESOTA, B.S. California State University, Fresno 2016; M.S. Murray State University 2021; General Manager Wyoming Sports Properties 2024

ERIC DONOVAL, B.A. University of Wisconsin 2010; M.S. Louisiana State University 2012; Director of Sports Performance - Football 2018.

TYSON DREW, B.A. University of Idaho 2004; M.S. 2007; Associate Athletic Director for Facilities and Event Management 2013.

HEATHER EZELL, B.S Iowa State University 2009; Head Women's Basketball Coach 2022

NICK FULTON, B.A. University of Sioux Falls 2003; Associate AD for Football Operations 2022.

SETH GLAUSE, B.S. University of Wyoming 2020; Head Rodeo Coach 2023

DEREK GOSSLER, Associate A.D. for Development & Revenue Generation, Bachelor of Arts in Communication, University of Washington, May 2009; Master of Education, Intercollegiate Athletic Leadership, University of Washington, May 2011.

GUILLERMO GUERRERO, Director of Spirit Program

SHELLEY HEWARD, B.S. University of Wyoming 2009; Assistant AD for Marketing & Branding 2022

FLOYD JOSEPH JENSEN, B.S. University of Wyoming 1998; Head Men's Golf Coach 2002.

JD JORDAN, B.S. University of Louisville 2014; M.S. University of Akron 2016; Assistant AD for Equipment Operations 2018.

KURT JOHNSON, B.A University of California Santa Barbara 1991; Doctor of Medicine Degree University of California Santa Barbara 1998; Physician, Sports Medicine 2023

DAVID KERNS, B.S. Pennsylvania State 1984; M.S. Ohio University 1987; Head Football Trainer 2019.

SCOTT KNERR, B.S. Ball State University 1995; M.S. University of Utah 1995; Director of Sports Medicine 2019.

JEFF LINDER, B.S. Western State Colorado University 1998; Head Men's Basketball Coach 2020.

DELANEY MULLINS, B.A. University of Wyoming 2021; Director of Academic Services 2024

KAYLEE PRIGGE, B. S., University of Tampa 2014; Head Women's Volleyball Coach 2022.

PETER PRIGGE, B.A. Marquette University 2009; J.D. 2012; Associate AD for Compliance/Olympic Sports 2012.

TRACY RICHARDSON, B.S. University of Wyoming 1998; J.D. University of Wyoming 2002; L.L.M University of Florida 2003; Associate AD, Trademark & Licensing 2020.

JAY SAWVEL, B.A. Mount Union College 1993; M.S. Eastern Kentucky University 1995; M.S. University of Notre Dame 1997, Head Football Coach 2024

NICK SEEMAN, B.S. Wayne State College 2009; M.S. Wayne State College 2013; Assistant AD for Communications 2024

CJ STAKES, A.A. Art Institute; Executive Chef Training Table 2021.

JOSEY STENDER, B.S. University of Memphis 2001; M.S. 2004; Head Women's Golf Coach 2005.

TAYLOR STUEMKY, B.S. University of Northern Colorado 2010; M.S. Kansas State University 2013; Associate AD for Internal Operations/SWA 2013.

DENNIS TRAPANI, B.S. Gannon University 2007; Associate AD for Creative Services 2013.

COLIN VICKERS, B.S. University of Wyoming 2017; Director of Athletic Concessions Operations 1999.

RANDY WELNIAK, B.S. University of Wyoming 1988; M.B.A. 1989; Senior Associate Athletic Director for Development and Revenue Enhancement 2011.

MATTHEW J. WHISENANT, B.S. East Tennessee State University 1996; M.A. 1999; PhD Ohio State 2001; Deputy Director of Athletics 2002.

Mission Statement

The University of Wyoming Department of Intercollegiate Athletics is committed to the development of tomorrow's leaders by creating an environment that promotes personal growth, academic and athletic excellence in a progressive, inclusive, and transparent manner. The Department of Intercollegiate Athletics will support the overall University of Wyoming mission, provide an outstanding fan experience, encourage community engagement, and serve as a source of pride for alumni, supporters, and the state of Wyoming.

Guiding Principles

- Dedication to Student-Athletes: We will promote the well-being of student athletes and provide opportunities for academic, athletic, and personal success. We will foster academic excellence, graduate student-athletes, support their development as citizens, and prepare them to be leaders.
- Integrity: We will demonstrate integrity in all areas. We are dedicated to financial stability, rules compliance, diversity, and personal accountability.
- Respect: We will celebrate a climate of mutual respect, inclusiveness, loyalty, and sportsmanship by recognizing contributions to our teams, our department, and the university.
- Competitive Success: We will endeavor to be the very best when representing the University of Wyoming and our state. We are committed to providing the resources and personnel for our teams to achieve success.
- Tradition: The legacy of the University of Wyoming athletics is proud and strong. We will honor our outstanding tradition.
- Excellence: We believe in a spirit of comprehensive excellence. We will strive for excellence in all we do.

General Information

The University of Wyoming Department of Intercollegiate Athletics (DIA) consists of 17 teams competing at the NCAA Division I level: men's and women's basketball, men's and women's cross country, football (FBS), men's and women's golf, women's soccer, men's and women's swimming, women's tennis, women's volleyball, men's and women's indoor track, men's and women's outdoor track and wrestling. All sports all fully funded up to the NCAA maximum for grant-in-aids (i.e., scholarships).

The University of Wyoming competes in the Mountain West Conference (MWC), the Western Athletic Conference (WAC), and the Big 12 Conference. In addition to the University of Wyoming the MWC consists of the U.S. Air Force Academy, Boise State University, Colorado State University, University of Nevada-Las Vegas, University of New

Mexico, and San Diego State University, University of Nevada, Utah State, University of Hawaii, San Jose State University and Fresno State.

The DIA is managed by the Director of Intercollegiate Athletics who reports directly to the President of the University. The Director of Intercollegiate Athletics ensures the department operates in a manner consistent with the rules and regulations of the University, the MWC and the NCAA.

*For additional information please visit the University's official athletic website at: www.gowyo.com

National Outdoor Leadership School

- Application/Eligibility
- Credit and Credit Transfer
- Academic Advising
- Financial Arrangements
- Financial Aid

Administered by the Haub School of Environment and Natural Resources
Bim Kendall House

Haub School Advising Center
Phone: (307)766-5080 FAX: (307)766-5099; Web site: www.uwyo.edu/haub

The University of Wyoming (UW) and National Outdoor Leadership School (NOLS) Articulation Agreement provides the opportunity for UW students to receive UW academic credit for NOLS courses.

When NOLS students step into the world's wild places, they bring not only their backpacks, but also more than 40 years of experience in expeditioning. NOLS founder Paul Petzoldt's idea was simple: take people into the wilderness for an extended period of time, teach them the right things, feed them well and when they walk out of the mountains, they will be skilled leaders. The core of his idea was the extended expedition, one of sufficient length that a person could learn and practice the skills over and over again. That is the backbone of every NOLS course and today the school is widely recognized as the world's leader in the extended expedition, from two weeks to twelve.

This articulation agreement covers domestic and international NOLS courses. This agreement also covers some individual shortterm courses (14 days or less; including mountaineering, rock climbing, sailing, kayaking, skiing, snowboarding, and backpacking) and the Wilderness First Responder (WFR) course.

Application/Eligibility

Current UW students, or students who have been fully or conditionally admitted to UW may receive articulated NOLS credit. Students who have already taken a NOLS course cannot receive credit retroactively (i.e. if a student embarked on a NOLS course and requested to get credit after the course was completed).

Credit and Credit Transfer

UW credit hours will be awarded in the approved courses, which require prior approval. Upon completion of the NOLS courses, provided a grade equivalent to a UW grade of C or better was obtained at NOLS. These UW course grades will be included in your UW GPA. Students who withdraw or are expelled from a NOLS course may receive an incomplete or an F for all enrolled UW credit.

Students should be aware that for internship credits to be awarded, additional academic work requirements determined by the internship course will need to be met. Those additional requirements vary between academic programs and amount of credit desired, but may include a satisfactory evaluation from NOLS, a weekly journal, a substantial written report, and an oral presentation. Internship requirements are established prior to your participating in the NOLS course.

Academic Advising

Prior to participating in a NOLS course for UW credit, students must make an appointment with the Haub School by emailing haub.school@uwyo.edu or calling (307) 766-5080. If your academic program is outside of the Haub School, students should also meet with their assigned academic advisor to determine if these courses will count towards their major. The Haub School will approve the student's schedule, provide the appropriate course numbers, and liaise with the NOLS Registrar.

Financial Arrangements

Each UW student will pay to NOLS:

- The NOLS tuition and related fees (any changes to be advised in writing by NOLS at least three months in advance of the change coming into effect), related fees would include equipment deposit;
- Complete medical and evacuation health insurance;
- Other fees (e.g. tuition protection program, local transportation, and gear purchases), air transportation and additional living expenses will be paid directly by the student to the provider of the service.

Each UW student will pay to UW:

- The published per credit registration fees to register UW credits earned at NOLS

Financial Aid

Students enrolled in the NOLS program may apply their financial aid to the cost of the program if they are enrolled as a full-time degree seeking student at the University of Wyoming. To do so, please work with the UW Office of Scholarships and Financial Aid.

Rules, Law, and Regulations

UW students studying at NOLS will be bound by all rules, regulations and by-laws in operation at NOLS. In addition, since UW students remain enrolled as degree candidates at UW, they must also adhere to UW standards of conduct, rules and regulations. UW and NOLS both abide by the Federal Right to Privacy Act (FERPA).

Steps to Follow

1. Determine the NOLS course that best fits your needs/interests and/or goals online at: www.nols.edu/courses
2. Make an appointment with an advisor from the Haub School to determine the UW academic credit that best suits your degree program by e-mailing haub.school@uwyo.edu or by calling (307) 766-5080.
3. Meet with your academic advisor (if your academic program is not in the Haub School).
4. Apply and be admitted into NOLS.
5. Prior to leaving for your NOLS course, enroll in the credit offered for the course.
6. Secure your financial aid (if any) with the UW Office of Scholarships and Financial Aid.

7. Attend and successfully complete the course (grade C or better).
8. Grades will be posted the semester of completion of your course.

UW Credit Options for NOLS

Success and Engagement Programs

Success and Engagement Programs

105 Coe Library

April Heaney, Director
Phone: (307) 766-3448
Web site: www.uwyo.edu/learn

STEP

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB><Q]).

STEP courses are housed within the Learning Resource Network (LeaRN) Program and comprise first-year and academic success courses aimed at supporting students in college research, written and professional communication, major and career exploration, and general transition strategies. STEP courses are often embedded in first-year programs including Fall Bridge, First-Year Experience, First-Year Interest Groups (FIGs), and First-Year Seminars.

STEP 1000 - Culture and Community

STEP 1060 - College Athletics and Society

STEP 1101 - First-Year Seminar

STEP 1102 - Step Into College

STEP 1105 - Academic Success Skills

STEP 3000 - Leadership in SI

STEP 3102 - Non-Traditional Student's Guide to College and Career

STEP 4000 - Special Problems in Academic Leadership: Motivation & Mindset

UWYO 4800 - McNair Research Design

UWYO 4900 - UWYO 4900 | McNair Research and Graduate School Prep

UWYO

UWYO courses are designed to help students acculturate to college life and coursework and learn key academic skills. Course content is combined with training in critical reading, academic writing, research, formal presentation, and many other emphases. UWYO courses have low student-teacher ratios in an effort to help students experience richer connection with the instructor and students in the course. Most UWYO courses imbed intellectual self-awareness within the course goals. Several UWYO courses are part of UW learning communities and provide additional opportunities for students to engage with and work together in their cohort.

Commonly Used Terms

A-F: Letter grades of A, A-, B+, B, B-, C+, C, C-, D+, D, or F.

Academic load: The total semester hours of credit for all courses taken during a specified time-semester or summer session.

Academic probation: Probation is the status of an undergraduate student who is not progressing satisfactorily toward his or her degree. An undergraduate student shall be placed on probation at the end of the semester or term when his or her cumulative grade point average (GPA) falls below a 2.000 (3.000 for graduate students).

Academic reinstatement: Restoration of a student's eligibility to register for courses after being on academic suspension. This process requires a petition that is first reviewed by the dean of the student's college or the Center for Advising and Career Services. Academic reinstatement does not guarantee restoration of financial aid eligibility which is a separate process handled by the financial aid office.

Academic suspension: The status of a person whose enrollment at UW has been terminated because of unsat isfactory academic progress towards either an undergraduate or graduate degree.

Accredited: A term applied to a school or specific program which has been recognized by a national or regional organization as meeting certain academic standards for quality and educational environment. The University of Wyoming, and all UW academic programs, are accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education. This is the highest level of accreditation in the United States. Some academic programs have professional standards established by their respective accrediting associations.

Add and drop deadlines: The latest date in an academic term when a course may be added or dropped from a student's class schedule *without* approval of someone other than the student. Adding and dropping of courses is done through WyoRecords.

Admission: The process of being admitted to the university with the opportunity to take classes.

AP exam: An Advanced Placement Examination from the College Entrance Examination Board (CEEB) in a specific subject area available nationally to high school students. Information on taking the examination may be obtained from a high school guidance counselor. Information on university course credit for these examinations is available from the Office of the Registrar.

Audit: Individuals who want to take a course but who do not want either a grade or credit for taking it may register as an audit. The instructor for the course determines the amount of work and/or participation that is required. Marks of either Audit/Satisfactory or Audit/Unsatisfactory are assigned. Audit hours are charged tuition at the normal rate. Audit hours are not used to determine full- or part-time status.

Banner: Banner is a suite of products that are used as the university's student information system.

Class schedule: A publication containing a listing of all courses scheduled to be offered during a specific semester or summer session. *Class Schedules* are available on the Office of the Registrar's website.

CLEP test: Subject area examination administered by the College Entrance Examination Board (CEEB).

Concentration: A collection of courses within a major which focuses on a particular subject area.

Concurrent major: A double major. Only one degree will be awarded based on the student's primary major.

Continuing probation: An undergraduate student on academic probation is considered on continuing probation in subsequent semesters if the student earns a term GPA of 2.000 or above but whose cumulative GPA is still below a 2.000.

Corequisite: A course to be taken or a requirement to be fulfilled at the same time as a particular course is being taken. Departments reserve the right to drop a student from a class if the student does not have the corequisite.

Cross-listed course: A course which is identical in content, title, credit hours, and requirements which is offered by one or more academic departments. The four-digit course number must be the same. This designation must be approved by the University Course Review Committee.

Curriculum: The set of courses in a particular degree program. More generally, the courses (in total) offered in a college or university.

Degree requirements: Degree requirements include all requirements of the university (including University Studies Program), college, academic department, and major. All requirements must be successfully met in order to obtain a specific degree.

Drop: To discontinue enrollment in a course or courses prior to the end of the drop/add period at the beginning of a term. A dropped course does not appear on the student's academic transcript. Dropping from a class does not influence a student's Satisfactory Academic Progress measurement, but may impact the amount of financial aid a student earns for the semester in question.

Dual degree: Two degrees are awarded, and students must complete all of the degree requirements for the colleges of both majors. Dual degree require additional credits above the minimum required for one degree.

Dual-listed course: A course which is offered at both the 4000- and 5000-level that is identical in course prefix, content, title, and credit hours. The last three digits of the four-digit course number must be the same. The 5000-level course must require additional work beyond that required for the 4000-level course. This designation must be approved by the University Course Review Committee.

Financial aid reinstatement: Restoration of one's financial aid eligibility based on being granted an exception to financial aid or scholarship rules. Financial aid restoration is a separate process from and is not guaranteed by academic reinstatement.

Full-time: A student taking 12 or more credit hours at the undergraduate level or 9 or more credit hours at the graduate level is considered a full-time student. During the summer session, students enrolled in 6 or more credit hours are considered full-time.

Grade point average: The semester grade point average (GPA) is the sum of all grade points earned in a semester or term divided by all credit hours attempted for letter grade. Credit hours in courses in which marks of I, W, S, or U were assigned are excluded. The cumulative grade point average is the sum of all grade points earned at UW divided by the sum of all credit hours attempted at UW for a letter grade, for all non-excluded courses.

Lower-division course: Courses normally taken during the freshman and sophomore years. Lower division courses are those numbered between 1000 and 2999, inclusive.

Major: The primary disciplinary interest or academic subject area of a student as represented by one of the curricula offered by the various academic departments. The undergraduate degree may or may not carry the same title as the major. Every student has one or more majors but may or may not have a minor or concentration.

Minor: A secondary subject area interest (to the major) represented by a specified set of hours and/or courses. Differs from a concentration in that a minor is not a subdivision of the major subject area.

Option: A collection of elective courses within a major which emphasize one aspect of the major, chosen by a student according to his or her interests.

Orientation: A program of one to three days on campus designed to acquaint a new student with the facilities, policies, sources of information and assistance, and academic and social environment. Academic advising and registration are also included.

Prerequisite: A requirement to be completed before enrollment in a course or a degree program. Prerequisites for individual courses are listed in their course description in this catalog. The statement "or consent of instructor" is implied for all prerequisites. Students are responsible for being aware of a course's prerequisites prior to enrolling in the course. Departments reserve the right to drop a student from a class if the student does not have the prerequisite.

Registration: The process of officially enrolling into one or more courses at the university.

Satisfactory academic progress: Satisfactory Academic Progress only applies to federal financial aid applicants and recipients. Three measures of a student's advancement toward the earning of his or her stated degree objective are: 1) a grade point average putting the student in good academic standing, 2) a ratio of credit hours earned compared to credit hours attempted in the student's most recent academic year, and 3) a comparison of the number of credit hours attempted in a college career compared to the number of hours required to earn the pursued degree.

Semester: The division of the calendar year used in academic scheduling. A semester is roughly 15 weeks in length.

Semester credit hour: The unit of academic credit for course work.

Transfer credit evaluations: An evaluation of previous college-level course work from another regionally-accredited academic institution, international post-secondary institution, standardized test, or military course work to determine whether courses are transferable to UW as well as to determine any UW equivalents.

University Catalog: The *University Catalog* is the official document of the university which includes information on all undergraduate academic programs and their requirements, courses offered by each academic department, lists of faculty, policies and procedures related to admission, financial aid, all registration activity, and tuition and fees. A student's degree requirements are based on the *University Catalog* in effect the year he or she enters either UW or another catalog year as approved with a petition.

Upper-division course: Courses normally taken during the junior and senior years. These courses are numbered from 3000 - 4999, inclusive.

"W" Number: A student's unique identifier in WyoRecords will begin with "W". This "W" number replaces the Social Security Number as a student's unique identifier.

Withdrawal: To discontinue enrollment in a course or courses after the end of the drop/add period. When withdrawing from one or more, but not all, courses, a student should complete the process on WyoRecords. To withdraw from all courses in a semester, a student should begin the process in the Dean of Students Office. A mark of W will be placed on the student's academic transcript for each course. Withdrawal from a course or from the university may impact both a student's current and future receipt of financial aid. Ask a financial aid office professional before withdrawing.

WyoRecords: The University of Wyoming portal used for communication with the campus community, registration activity, grade posting, financial aid, course management, and advising. A specialized version of WyoRecords is available for all enrolled students, faculty, staff, and alumni.

University of Wyoming at Casper

Brent L. Pickett, Ph.D., Dean
125 College Drive, Casper WY 82601
(307) 268-2713
Web site: https://www.uwyo.edu/uwcasper/

Since 1976, the University of Wyoming at Casper (UWC), in partnership with Casper College, has offered on-site courses and a slate of university degree programs in Casper. UW-Casper is also the location in Natrona County for statewide degree programs and classes offered through Distance Credit Programs.

UW-Casper was established to meet the needs of students unable to move to Laramie. Some of these students are nontraditional students who may be older or have families, homes, or jobs in the Casper area. UW-Casper is designed to meet the academic needs of students in a setting that provides small class sizes, dedicated staff, and award-winning faculty. Courses are taught by resident and visiting faculty who are regular or part-time members of UW academic departments. A full-service student success office handles admission, registration, financial aid, and advising.

Classes are taught onsite on the Casper College campus. More than 4,000 students have received their UW degrees through UW at Casper support and programs.

UW-Casper also has the Bachelor's of Applied Science (BAS) program. This fully online program is designed to stack onto an associate's degree to help persons already in the job market further develop their skills and advance their career potential. There are two areas of concentration available in the BAS, one in Health Services Administration and the other in Organizational Leadership.

University of Wyoming at Casper

University of Wyoming at Casper

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Undergraduate Majors

Organizational Leadership, B.A.S.
Biology, B.S.

Criminal Justice, B.A.

Secondary Career & Technical Education, B.A.S.
Communication, B.A.
Elementary Education, B.A.

Elementary Education/Special Education, B.A.
Medical Laboratory Science, B.S.
Psychology, B.S.
Secondary Science - Biological Science Education with Concurrent Major in Biology (BSSE), B.A.
Social Work, B.S.W.

Sociology, B.A.

Zoology, B.S.

Zoology, B.S. UW - Casper

Graduate Majors

Counseling, M.S., Concentration in Mental Health Counseling or Counseling, M.S., Concentration in School Counseling

Social Work, M.S.W.

Minors and Endoresements

Secondary Biology Endorsement

Biology, Minor

Secondary Chemistry Endorsement

Chemistry Minor

Communication Minor

Criminal Justice Minor

Early Childhood Endorsement

Early Childhood Education Options

'Gender and Women's Studies Minor

Honors College Minor Curriculum

Psychology Minor

Sociology Minor

Zoology Minor

For more information, contact UW at Casper at 125 College Drive, Casper, WY 82601; (307) 268-2713, (877) 264-9930; or by e-mail at uwcasper@uwyo.edu.

Agribusiness Leadership Certificate

A 12-credit online asynchronous workforce certificate featuring agribusiness marketing, management, and finance. Includes courses on organizational change, diversity, innovation, and an internship option.

Certificate Curriculum

Students must take a math placement test and have ECON 1010 as a prerequisite for this certificate.

Choose two of the three courses:

- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

Choose two of the three courses:

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6
  (3 credit hours required for certificate)

Total Credit Hours: 12 Credits

Agribusiness Leadership Minor

Learning Outcomes

AgriBusn Leadership SLO (Student Learning Outcome) 1: Students will become better prepared to assume supervisory and other leadership roles within ag-related organizations.

AgriBusn Leadership SLO 2: Students will demonstrate knowledge of agribusiness concepts and exhibit the qualities of a successful leader.

AgriBusn Leadership SLO 3: Students will incorporate organization design, agribusiness marketing, management, and finance concepts to comprehensively assess and enhance the organization's performance.

AgriBusn Leadership SLO 4: Students will demonstrate the ability to communicate research data findings in verbal and written forms within ag-related organizational structures.

- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6

Health Leadership Certificate

A 14-credit online asynchronous workforce certificate focusing on leadership in healthcare. Includes courses on American health evolution, healthcare quality, and leadership. An internship option integrates theory and practice.

Curriculum Map and Program Structure

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- PHCY 4341 - Intro to Healthcare Quality Credits: 3
- PHCY 4441 - Intro Health Institution Leadership Credits: 3
  Choose two of the three courses:
- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6
  (3 credtis required for certificate)

Total Credit Hours: 14 Credits

Health Leadership Minor

Learning Outcomes

Health Leadership SLO (Student Learning Outcome) 1: Students will become better prepared to assume supervisory and other leadership roles within a healthcare organization.

Health Leadership SLO 2: Students will demonstrate knowledge of the theories and evidence of the qualities of a successful leader.

Health Leadership SLO 3: Students will incorporate organization design and process skills into healthcare settings to comprehensively assess and enhance the organization's performance.

Health Leadership SLO 4: Students will demonstrate the ability to communicate research data findings in verbal and written forms within healthcare organization structure.

Minor Requirements: 17 credits total

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- PHCY 4341 - Intro to Healthcare Quality Credits: 3
- PHCY 4441 - Intro Health Institution Leadership Credits: 3
- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6

Medical Laboratory Science B.S.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

Curriculum Information

The requirements of the Medical Laboratory Science degree can be found here: Medical Laboratory Science, B.S.

Organizational Leadership Certificate

This 12-credit workforce certificate covers Innovation & Creativity, Diversity & Change, Ethics in Organization, and a capstone course. The program enhances leadership, communication, and ethical AI skills.

Curriculum Map and Program Structure

Choose two of the three courses:

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4200 - Ethical Issues and Organizations Credits: 3

Required courses:

- ORGL 4960 - BAS Applied Science Internship Credits: 1-6
  (3 credits required for certificate)
- ORGL 4900 - Capstone: Organizational Leadership in Practice Credits: 3

Total Credit Hours: 12 Credits

Organizational Leadership Minor

The Organizational Leadership minor is designed to equip students with essential skills and knowledge in leadership, diversity management, ethics, communication, and the ethical use of AI tools.

Curriculum Information

The curriculum comprises 15 credits spread across five courses: Innovation & Creativity, Diversity & Change, Ethics in Organization, Internship, and Capstone: Leadership in Practice. In Innovation & Creativity, students explore theories of organizational change and learn to inspire positive changes within their teams. Diversity & Change delves into

managing diverse teams effectively, covering legal compliance and HR management concepts. Ethics in Organization surveys moral theories and applies them to real-world scenarios, fostering self-aware leadership. The Internship offers practical leadership experience through a 42.5-hour project, while the Capstone provides case studies for students to analyze and propose solutions for organizational challenges. Throughout the minor, students develop skills in verbal and written communication, critical thinking, and the ethical application of AI tools. The emphasis on practical experience, ethical decision-making, and diversity management prepares students for success in various organizational settings.

Learning Outcomes

SLO (Student Learning Outcome) 1: Students will learn and compare a variety of leadership and management theories that represent and reflect on organizational structures.

SLO 2: Students will analyze and demonstrate how diversity in a workplace is necessary to produce results and innovative change.

SLO 3: Students will explore ethical theories and understand how those theories are useful in approaching decisions that have moral implications.

SLO 4: Students will demonstrate proficiency in verbal and written communication of information and research data as is needed to be successful within an organizational structure.

SLO 5: Students will implement AI (Artificial Intelligence) tools and software in ethical and professional ways to bring resources and benefits to the organizational structure.

Required Courses - 15 credits total

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4200 - Ethical Issues and Organizations Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6
- ORGL 4900 - Capstone: Organizational Leadership in Practice Credits: 3

Organizational Leadership, B.A.S.

The Bachelor of Applied Science degree (BAS) is a completely online program designed for individuals who need or desire the skills and knowledge in leadership and management to enhance their capabilities in their careers, in the organizations in which they work, or want to pursue a new career.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirements for Organizational Leadership Majors

General Requirements

- Total credits (college requirement): 120
- 3000-level or above credits (university requirement): 42
- Fulfillment of University Studies Program (consult advisor)
- Fulfillment of major requirements, track requirements, contemporary society, and career electives

Major Requirements

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4200 - Ethical Issues and Organizations Credits: 3
- ORGL 4900 - Capstone: Organizational Leadership in Practice Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3

Tracks

Students in the Organizational Leadership major can choose between two tracks to help them build skillsets pertinent to their current or future career goals.

The Community and Public Services tracks guides students through an examination of how managers operate effectively with stakeholders and employees in public service, community, leadership, and non-profit settings.

The Organizational Management track guides students through an examination of how managers create value by understanding and developing employee and customer relationships. Students in the Organizational Management track have the opportunity to add a concentration in Health Services Administration.

Community and Public Services Track (12 credits)

The Community and Public Services track guides students through an examination of how to operate and lead effectively with stakeholders and employees in public service, community, and non-profit settings.

Students must choose four upper division courses from the following to meet the remaining credits for the Community and Public Services Track.

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- AGEC 4660 - Community and Economic Development Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3

- AGRI 3000 - Discovering and Utilizing Ideas and Information Credits: 3
- AGRI 4350 - Problem Solving in Organizational Settings Credits: 3
- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- CRMJ 3400 - Deviant Behavior Credits: 3
- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4135 - Program Evaluation Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 4420 - Seminar in Public Administration Credits: 3
- POLS 4465 - Survey of the Nonprofit Sector Credits: 3
- POLS 4710 - Topics in Credits: 1-3
- ORGL 4990 - Independent Study - BAS Organizational Leadership Topics and Problems Credits: 1-6

Organizational Management Track (12 credits)

The Organizational Management track guides students through an examination of how managers understand and develop employee and customer relationships and operate an organization effectively.

Students must choose four upper division courses from the following to meet the remaining credits for the Organizational Management Track.

- AGRI 3000 - Discovering and Utilizing Ideas and Information Credits: 3
- AGRI 4350 - Problem Solving in Organizational Settings Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 4250 - Advanced Organizational Communication Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4220 - Talent Acquisition Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4430 - Organization Design and Change Credits: 3
- MKT 4230 - Integrated Marketing Communication Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- MKT 4250 - Digital Marketing Credits: 3
- MKT 4450 - Advanced Marketing Management Credits: 3
- MKT 4520 - Marketing Research and Analysis Credits: 3
- UWYO 4101 - BGS Capstone Design Credits: 3
- ORGL 4990 - Independent Study - BAS Organizational Leadership Topics and Problems Credits: 1-6

Contemporary Society Requirement (2 courses, 6 credits)

Students must choose two upper division courses from the following departments to meet contemporary society requirements: AAST, AMST, ANTH, BOT, COJO, CRMJ, ENR, FCSC, GEOG, GWST, HIST, HP, INST, LTST, MUSC, NAIS, ORTM, PHIL, POLS, RELI, SOC, SOWK, WIND

Career Electives (9 credits)

Students will work with their advisor to identify these career electives. Career electives must be upper division coursework. Students have the option of completing an internship, AGRI 4960, to fulfill six of the nine required credits.

Health Services Administration (HSA) Concentration (11 credits)

The Health Services Administration (HSA) concentration is designed for students who are interested in advancing their careers in the healthcare industry.

* Students in this concentration must take the Organizational Management track and will substitute PHCY 4441 Intro to Health Leadership in lieu of AGRI 4350 Problem Solving in an Organizational Setting.

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- PHCY 4141 - Health Economics and Outcomes Credits: 3
- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 4341 - Intro to Healthcare Quality Credits: 3
- PHCY 4441 - Intro Health Institution Leadership Credits: 3

Program Overview

Dr. Rochelle McCoy, Director- Bachelor of Applied Science Program rmccoy3@uwyo.edu

This program is available entirely online. Entry into the program requires an application process to UW. Official transcripts from all institutions attended must be submitted to UW Admissions.

All students must complete the following:

a) University Studies Program (USP) requirements

b) 120 approved credits, 42 of which must be upper division (3000+), 30 of which must be obtained from UW.

The program is designed to be completed in two years, but students may move at a pace that works for them.

All courses within the Bachelor of Applied Science program must be completed with a grade of C or better. If you do not pass the course with a grade of C or better after three attempts, you will be dismissed from the program.

Each student is assigned an advisor, who can be reached at (bas@uwyo.edu) and will be advised each semester. It is important that you work closely with your advisor to plan your course schedule.

ORGL 3100 - Leading Organizational Innovation & Creative Planning

ORGL 4100 - Diversity & Organizational Change

ORGL 4200 - Ethical Issues and Organizations

ORGL 4900 - Capstone: Organizational Leadership in Practice

ORGL 4960 - BAS Applied Science Internship

ORGL 4990 - Independent Study - BAS Organizational Leadership Topics and Problems

College of Agriculture and Natural Resources

College of Agriculture, Life Sciences and Natural Resources

151 Agriculture Building

Kelly Crane, Interim Dean
Phone: (307)766-4133
Web site: www.uwyo.edu/uwag

The College of Agriculture, Life Sciences and Natural Resources offers a wide variety of course work in agriculture, natural resources, molecular biology, and family and consumer sciences. The curriculum provides a sound background in basic sciences and the choice of a number of fields in which to specialize. Students are trained in principles which apply throughout the world, with special emphasis on agriculture and natural resources found in the Rocky Mountain region.

Laboratory work and other experiential learning opportunities are stressed in all programs. Students receive excellent training from case studies and practical experience provided at research and extension centers. Other facilities include modern laboratories and classrooms, an abattoir, meat processing rooms, livestock and crop farms and greenhouses.

In addition to the academic departments, the college includes the Agricultural Experiment Station and the UW Extension. Materials and techniques resulting from this effective triple combination benefit students in the never-ending search for problem-solving information. The close relationship between teachers, researchers, and extension educators creates a learning atmosphere that encourages the development of the finest students.

Major

Agricultural Communications, B.S.

Courses in agriculture, communications, and journalism prepare students for careers as editors or writers for farm and home organizations, state and federal agencies, magazines, newspapers, radio, television, and commercial businesses.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Minimum Requirements

Communications/Journalism Core: 36 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3530 - Multimedia Production Credits: 3
- COJO 3480 - Internship Credits: 1-12 * Max 6 Credits, or two internships
  AND
  3 hours COJO/COMM Elective - ANY LEVEL
  AND
  12 hours COJO Electives - UPPER DIVISION

Agriculture Core Requirements: 36 Hours

At least 18 hours must be lower division (Ag 1000-2000) elective courses, and at least 12 hours must be upper division (Ag 3000-4000) elective courses and include

- AGEC 1020 - Principles of Microeconomics Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- ANSC 1010 - Introduction to Animal Science Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- FDSC 1410 - Scientific Study of Food Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
  OR
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
  OR
- PLNT 2200 - Field Crop Production Credits: 3
  OR
- REWM 2000 - Principles of Rangeland Management Credits: 3
  AND

12 hours of UPPER DIVISION Electives from AECL, AGEC, AGRI, ANSC, ENTO, FCSC, FDSC, PATB, PLNT, REWM, SOIL

Supporting Course Requirement: 4 Hours

- STAT 2050 - Fundamentals of Statistics Credits: 4

Additional Hours for Major and Electives: 14 Hours

8 hours of General Electives ANY DIVISION

6 hours of General Electives UPPER DIVISION

Total Hours: 120

Additional Requirements

Agricultural communication majors complete an internship in their field. A variety of opportunities are available, and students can work with their advisor to determine an appropriate internship for their area of emphasis.

Students wishing to pursue an area of emphasis in the agricultural communications option are encouraged to also select a minor. The college currently offers a variety of minors, and any of these can help to better prepare students for employment or graduate work.

Ranch Management & Agricultural Leadership, B.S

This multidisciplinary program integrates classroom learning with practical experience, connecting students with producers, agency personnel, and industry professionals. The emphasis on leadership is intra-curricular and students will be well versed on the importance of behavioral skills necessary for career success.

Minimum Course Requirements

A minimum of 42 credits must be at the 3000 and 4000 level for graduation. At least 30 of the 42 credits must be earned from UW. Total 122 credit hours.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3

- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Communication 2

- ERS 3000 - Energy Project Outreach and Communications Credits: 3

Communication 3

- RMAL 4760 - Organizational Leadership in Agriculture Credits: 3

Quantitative Reasoning

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Physical & Natural World (1)

- LIFE 1010 - General Biology Credits: 4

Physical & Natural World (2)

- CHEM 1000 - Introductory Chemistry Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

Human Culture (2)

- AGEC 1020 - Principles of Microeconomics Credits: 3
  or
- ECON 1020 - Principles of Microeconomics Credits: 3

Ranch Management & Agricultural Leadership

- RMAL 1010 - Introduction to Ranch Management & Agricultural Leadership Credits: TO
- RMAL 2040 - Quantitative Tools for Managing Agricultural Resources Credits:
- RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning Credits:
- RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt Credits:
- RMAL 4000 - Advanced Ranch and Rangeland Problem Solving and Planning Credits:
- RMAL 4800 - Leadership and Collaboration Strategies to Address Contemporary Challenges in Agriculture Credits:
- RMAL 4970 - Agriculture Related Operations Internship Credits: OR
- RMAL 4971 - Agency or NGO Internship Credits: OR
- RMAL 4972 - Ranch Management Internship Credits: OR

- RMAL 4990 - Topics: Ranching in the West Credits: OR
  Required 4 times

Agricultural Business

Variable credit hours are dependent upon the elective hours the student chooses to take.

- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

Animal Production

- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
  OR
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3

Plant Production and Rangeland Management

- SOIL 2010 - Introduction to Soil Science Credits: 4
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4

Leadership

- LEAD 3110 - Foundations for Leadership Credits: 3
  OR
- AGRI 4700 - Elements of Leadership Credits: 3

Total: 122 Hours without internship credits

Department of Agricultural and Applied Economics

206 Agriculture Building, (307) 766-2386
FAX: (307) 766-5544
Web site: www.uwyo.edu/agecon

E-mail: ag-econ@uwyo.edu
Department Head: Benjamin S. Rashford

Professors:

CHRISTOPHER T. BASTIAN, B.S. University of Wyoming 1987; M.S. 1990; Ph.D. Colorado State University 2004; Professor of Agricultural Economics 2017, 2005.

ROGER COUPAL, B.S. Utah State University 1978; M.S. University of Arizona 1985; Ph.D. Washington State University 1997; Professor of Agricultural Economics 2015, 1997.

DON MCLEOD, B.S. St. John's College 1982; M.S. Oregon State University 1987; Ph.D. 1994; Professor of Agricultural Economics 2015, 1995.

L. STEVEN SMUTKO, B.S. Colorado State University 1978; M.C.R.P. North Dakota State University 1982; Ph.D. Auburn 1995; Spicer Chair of Collaborative Practice, Professor of Agricultural Economics 2009.

Associate Professors:

KRISTIANA M. HANSEN, B.A. Reed College 1996; M.S. University of California, Davis 2003; Ph.D. 2008; Associate Professor of Agricultural Economics 2016, 2009.

VARDGES HOVHANNISYAN, B.S. Armenian State University of Economics 1999; M.S. Armenian State Agrarian University 2002; Ph.D. University of Wisconsin-Madison 2012; Associate Professor of Agricultural Economics 2021, 2015.

CHIAN A. JONES-RITTEN, B.S. Northern Arizona University 2003; M.A. Colorado State University 2007; Ph.D. 2011; Associate Professor of Agricultural Economics 2013.

BENJAMIN S. RASHFORD, B.S. University of Wyoming 1999; M.S. 2001; Ph.D. Oregon State University 2006; Associate Professor of Agricultural Economics 2012, 2006.

Assistant Professor:

ANDERS VAN SANDT, B.A. Linfield University 2012; Ph.D. Colorado State University 2018; Assistant Professor of Agricultural Economics 2020.

Academic Professionals:

BRIDGER M. FEUZ, B.S. University of Wyoming 1994; M.S. 1996; Senior Extension Educator 2012, 2004.

THOMAS FOULKE, B.A. University of Montana 1985; M.S. University of Wyoming 1992; Senior Research Scientist 2010, 1998.

LETICIA HENDERSON, B.S. New Mexico State University 2010; M.S. 2012; Assistant Lecturer 2019.

JOHN HEWLETT, B.S. Montana State University 1985; M.S. Oregon State University 1987; Senior Exension Educator 1987.

BRIAN LEE, B.S. University of Wyoming 2010; M.S. 2012; Research Scientist 2012.

AMY NAGLER, B.A. University of Wyoming 1996; M.S. 2002; Assistant Research Scientist 2016.

HANNAH WILSON, B.S. Southern Arkansas University 2021; M.S. University of Wyoming 2023.

ROBERT ZIEGLER, B.S. University of Wyoming 2018; M.S. University of Nebraska-Licoln 2020.

Temporary Lecturer:

Professors Emeritus:

Nicole Ballenger, Edward Bradley, Larry J. Held, James J. Jacobs, Dale Menkhaus, Carl Olson, Alan C. Schroeder, David T. Taylor, Glen D. Whipple

The Department of Agricultural and Applied Economics offers three concentrations within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three concentrations focus on the development of critical thinking, applied knowledge, and communication skills for students interested in

1. agricultural operations,

2. small rural businesses,

3. community economics,

4. financial institutions,

5. agricultural and natural resources development, and

6. other pursuits where applied economic tools will be useful.

A brief description of minimum course requirements for each of the three concentrations in agricultural business is given below. In addition, professional advisers will work with students to tailor a curriculum to individual interests and goals.

Agribusiness Management Concentration

This curriculum is for students preparing for careers in the agribusiness field. Applied agricultural economics courses are supplemented with marketing, management, finance and other courses from the College of Business and production-oriented courses from other departments in the College of Agriculture, Life Sciences, and Natural Resources.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13373

Farm and Ranch Management Concentration

This curriculum is for students intending to become operators or professional managers of farms, ranches, or feedlots. It is also well suited for students interested in the field of agricultural finance, or a minor in biological fields, such as agroecology or range management. In this concentration, courses in farm and ranch management, finance, and marketing are supplemented by courses in plant sciences, range management, veterinary sciences, and animal science.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13374

Livestock Business Management Concentration

This curriculum is for students intending to work in any sector of the livestock and meat industry, ranging from input suppliers, to ranches, feedlots, meat packing companies, marketing and sales agents, futures/commodities exchange groups, policy makers, and international trade organizations. In this option, courses in farm and ranch management, agricultural finance, and marketing are supplemented with courses in animal science, biology, range management, food science, and data analysis. Students may pursue a minor in Animal Science as part of this option. Students will gain a broad understanding of both the business and science of the livestock industry.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13773

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Minor Programs

The department also offers five minor programs. These five minors are to give students majoring in other undergraduate curricula in the university a concentration of work in any of the specialized undergraduate curricula offered by the department or in general agricultural economics. Each minor requires 27 hours in prescribed course work including 6 hours in supporting agriculture. Students need to plan their course work to meet course prerequisites.

Agricultural Business Minor. AGEC 1010, 1020, 4050 or MKT 3210, and 4060; ACCT 2010; 6 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

Farm and Ranch Management Minor. AGEC 1010, 1020, 2020 and 4640; 9 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

International Agriculture Minor. AGEC 1010, 1020, 3860 and 4880; 6 additional hours in upper-level agricultural economics courses; 3 hours in foreign culture or language; 6 hours in supporting agriculture courses.

Natural Resource Economics Minor. AGEC 1020, 3750, 4700, 4720; choose 9 additional hours from: AGEC 4450, 4600, 4710, ECON 2400, 4400, 4410, 4520 (note: College of Business prerequisites), ENR 4500.

General Agricultural Economics Minor. AGEC 1010, 1020 and 15 additional hours in agricultural economics courses with 12 hours at the upper-level; 6 hours in supporting agriculture courses.

Graduate Study

The Department of Agricultural and Applied Economics offers graduate work leading to the Master of Science degree. Students may choose among major options in the areas of agricultural and applied economics and agricultural business. The Plan A agricultural economics major emphasizes research with any of the following focus areas:

production economics and management, marketing and market analysis, resource and environmental economics, international agriculture, and economic and rural development.

The Plan B agricultural business option offers advanced skills to students who desire professional careers in the business sector. Students in the agricultural business option may concentrate their coursework and writing in management, marketing, or finance. Dual majors in water resources, and environment and natural resources are also offered.

Finally, the Department offers a graduate minor in applied economics. This program is for currently enrolled graduate students in other disciplines seeking a foundation in economics as well as their major discipline.

Program Specific Admission Requirements

Undergraduate major in agricultural economics or economics is not required.

Students may be required to complete program prerequisite courses, without graduate credit, that were not completed in their undergraduate education.

Specifically, students who have not completed at least one course in calculus, statistics, and intermediate microeconomic theory may be required to complete these courses without graduate credit during their first semester in residence.

Program Specific Degree Requirements

Master of Science in Agricultural Economics

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

AGEC 5310 Theory of Producer Behavior...3

AGEC 5630 Advanced Natural Resource Economics 3

AGEC 5710 Advanced Agricultural Market Theory 3

AGEC 5740 Theory of Consumer Behavior 3

Quantitative Methods

AGEC 5230 Intermediate Econometric Theory 3

AGEC 5320 Quantitative Methods in Agricultural Economics.....3

Research

AGEC 5650 Communicating Research.....3

AGEC 5880 Advanced Seminar.....1

Plan A (thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives. No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (non-thesis):

Minimum of 32 hours of coursework; Non-thesis business analysis paper accepted by the student's graduate committee. Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

AGEC 5310

AGEC 5740

AGEC 5880

AGEC 5630 or 5710

AGEC 5320 or 5230

In addition, students are required to complete 3 credit hours from each of the following three areas:

Management:

AGEC 4060, 4640 or 5460; or MGT 4410, 4420, 4440, 4470, or 4520

Marketing:

AGEC 4050, 4830, 4840, 4880, or 5710; or MKT 4240, 4430, 4520, or 4540

Finance:

AGEC 4500; or FIN 4510, 4520, 4610, 4810; or ECON 4740

Remaining credit hours will be filled with electives. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic. Presentation of the business analysis paper at a formal public seminar. An internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Master of Science in Agricultural Economics/ Water Resources; Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 10 credit hours in water resources approved courses. Please refer to Water Resources Degree program in this Catalog for updated degree requirements. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the water resources area. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Master of Science in Agricultural Economics/Environment and Natural Resources (ENR); Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Graduate Minor in Applied Economics:

Graduate standing. AGEC 4640, AGEC 5310 or 5740, AGEC 5320 or 5230, and 6 additional credits of approved courses. Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Major

Agricultural Business, Agribusiness Management Option, B.S.

Prepare for careers across agribusiness and business sectors. Agricultural economics is supplemented with business and agricultural science courses to prepare you for a wide range of careers in the agricultural supply chain.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative: 11 Hours

(Required for Major)

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Agricultural Economics: 33 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

- AGEC 4450 - Negotiation Credits: 3
  OR
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
  OR
- AGEC 4840 - Agricultural Market Analysis Credits: 3
  OR
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
  OR
- AGEC 4970 - Technical Communication for Agribusiness Credits: 3
- 3 hours of 3000-4000 level AGEC electives

Supporting Agriculture: 9 Hours

9 hours from any of the following: ANSC, FDSC, PLNT, SOIL, REWM, RNEW, ENTO, or BOT

Supporting Business: 18 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- 9 hours of 3000-4000 level business courses
  - NOTE: Up to 6 hours of the 9 hours may be taken from MKT 2100, MGT 2100, or FIN 2100.

Total Hours: 120

Agricultural Business, B.S.

The Department of Agricultural and Applied Economics offers three options within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three options focus on the development of critical thinking, research, and communication skills for students interested in

1. agricultural operations,
2. small rural businesses
3. community economics,
4. financial institutions,
5. agricultural and natural resources development, and
6. other pursuits where applied economic tools will be useful.

The agricultural business curriculum is designed to enable our students to:

1. communicate effectively economic, agricultural, business decision-making and natural resource concepts,
2. fit into a business, agency, or academic environment and use economic concepts to quantify and analyze relevant issues, and
3. be familiar with issues related to agriculture, natural resources, and rural communities.

Options

A brief description of minimum course requirements for each of the four options in agricultural business is given below. In addition, professional advisers will work with students to tailor a curriculum to individual interests and goals.

- Agricultural Business, Agribusiness Management Option, B.S.
- Agricultural Business, Farm and Ranch Management Option, B.S.
- Agricultural Business, Livestock Business Management Option, B.S.

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Agricultural Business, Farm and Ranch Management Option, B.S.

Combine courses in farm and ranch management, finance and marketing with crop, range, veterinary and animal sciences to prepare for a career managing farms, ranches, or feedlots.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative : 11 Hours

(Required for Major)

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Science:

- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
  OR
- CHEM 1050 - Advanced General Chemistry I Credits: 4

Agricultural Economics: 34 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

- AGEC 4050 - Agribusiness Marketing Credits: 3
  OR
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
  OR
- AGEC 4450 - Negotiation Credits: 3
  OR
- AGEC 4840 - Agricultural Market Analysis Credits: 3
  OR
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
  OR
- AGEC 4970 - Technical Communication for Agribusiness Credits: 3

- 3 hours 3000-4000 AGEC electives

Supporting Agriculture: 15 Hours

- 11 hours from any of the following: ASNC, FDSC, PLNT, SOIL, REWM, RNEW, ENTO, or BOT
- SOIL 2010 - Introduction to Soil Science Credits: 4

Supporting Business: 6 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Total Hours: 120

Agricultural Business, Livestock Business Management Option, B.S.

Build skills to work in any sector of the livestock and meat industry, from input suppliers to meat processing, by combining courses in farm and ranch management, finance and marketing, with animal, range and food science, biology, and data analysis.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative: 11 Hours

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR STAT 2070 - Statistics for Social The Social Sciences

Science (PN): 8 Hours

- CHEM 1000 - Introductory Chemistry Credits: 4
- LIFE 1010 - General Biology Credits: 4

Agricultural Economics: 37 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
  OR
- AGEC 4970 - Technical Communication for Agribusiness Credits: 3

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
  OR
- AGEC 4840 - Agricultural Market Analysis Credits: 3

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
  OR
- AGEC 4280 - International Food and Farm Cultures Credits: 3
  OR
- ECON 4740 - International Economics and Policy Credits: 3

- AGEC 4500 - Agricultural Finance Credits: 3

Biology of Livestock: 17 Hours

LIFE 2022 and LIFE 3050 are only required if pursuing a minor in Animal Science.

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3

Additional Biology of Livestock

For Animal Science minor: 20 Hours

Must earn a C or better in all courses to earn the minor.

- ANSC 2010 - Domestic Animal Metabolism Credits: 3
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- PATB 4110 - Diseases of Food Animals Credits: 3

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
  OR
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
  OR
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
  OR
- ANSC 4240 - Advanced Swine Production and Management Credits: 3

For Non-minor: 17 Hours

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 2020 - Feeds and Feeding Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3

- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3

Supporting Business: 6 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Total: 120 Hours

Minor

Agricultural Business Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

- AGEC 4050 - Agribusiness Marketing Credits: 3
  OR
- MKT 2100 - Introduction to Marketing Credits: 3

- AGEC 4060 - Agribusiness Management Credits: 3
- ACCT 2010 - Principles of Accounting I Credits: 3
- 6 additional hours in upper-level agricultural economics courses;
- 6 hours in supporting agriculture courses.

Applied Economics Minor

Graduate standing.

Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Courses Required

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

- AGEC 5310 - Theory of Producer Behavior Credits: 3
  OR
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3

- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3
  OR
- AGEC 5230 - Intermediate Econometric Theory Credits: 3

- 6 additional credits of approved courses.

Farm and Ranch Management Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3
- 9 additional hours in upper-level agricultural economics courses;
- 6 hours in supporting agriculture courses.

General Agricultural Economics Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- 15 additional hours in agricultural economics courses with 12 hours at the upper-level;
- 6 hours in supporting agriculture courses.

International Agricultural Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 3860 - World Food, Ag, & Development Credits: 3
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
- 6 additional hours in upper-level agricultural economics courses;
- 3 hours in foreign culture or language;
- 6 hours in supporting agriculture courses.

Natural Resource Economics Minor

Courses Required

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3

Choose 9 Additional Hours From:

- AGEC 4450 - Negotiation Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4520 - Public Economics Credits: 3 (note: College of Business prerequisites)
- ENR 4500 - Risk Analysis Credits: 4

Graduate

Agricultural Economics, M.S.

The M.S. in Agricultural and Applied Economics prepares graduates for careers in a diverse range of fields, including in business, government, research and education, and is also excellent preparation for continuing on to a PhD or law degree.

Students will take classes in the economic theory of consumer and producer decision-making, marketing, natural resource economics, linear programming, and econometrics in addition to elective field courses. Students also work closely with faculty to complete an in-depth research project and write an MS thesis on a topic that meets their interests and career goals. Research and teaching assistantships, which cover the costs of tuition and fees, health insurance, and provide a monthly stipend, are also available to support completion of the MS degree.

Degree Requirements

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

- AGEC 5310 - Theory of Producer Behavior Credits: 3
- AGEC 5630 - Advanced Natural Resource Economics Credits: 3
- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3

Quantitative Methods

- AGEC 5230 - Intermediate Econometric Theory Credits: 3
- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

Research

- AGEC 5650 - Communicating Research Credits: 3
- AGEC 5880 - Advanced Seminar Credits: 1-2

Plan A (Thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives.

No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement.

Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements.

The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic.

Presentation of research results at a formal public seminar.

Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (Non-thesis):

Minimum of 32 hours of coursework;

Non-thesis business analysis paper accepted by the student's graduate committee.

Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

- AGEC 5310 - Theory of Producer Behavior Credits: 3
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3
- AGEC 5880 - Advanced Seminar Credits: 1-2

- AGEC 5630 - Advanced Natural Resource Economics Credits: 3
  OR
- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3

- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3
  OR
- AGEC 5230 - Intermediate Econometric Theory Credits: 3

In Addition:

Students are required to complete 3 credit hours from each of the following three areas:

Management:

- AGEC 4060 - Agribusiness Management Credits: 3

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

Marketing:

- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
- AGEC 4840 - Agricultural Market Analysis Credits: 3

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
  OR
- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3
  OR
- MKT 4240 - Consumer Behavior Credits: 3

- MKT 4430 - Marketing Management Credits: 3

- MKT 4520 - Marketing Research and Analysis Credits: 3
  OR
- MKT 4540 - International Marketing Credits: 3

Finance:

- AGEC 4500 - Agricultural Finance Credits: 3
  OR
- FIN 4510 - Bank Management Credits: 3

- FIN 4810 - Real Estate Investment Credits: 3
  OR
- ECON 4740 - International Economics and Policy Credits: 3

Remaining Credit Hours

Remaining credit hours will be filled with electives.

The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic.

Presentation of the business analysis paper at a formal public seminar.

An internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Agricultural Economics/Environment and Natural Resources, M.S.

Plan A (Thesis)

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser.

Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements.

The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources.

Presentation of research results at a formal public seminar.

Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Department of Animal Science

Animal Science/Molecular Biology Bldg., Rm 101
(307) 766-2224
FAX: (307) 766-2355
Web site: uwyo.edu/anisci
Department Head: Bledar Bisha

Professors:

BRENDA M. ALEXANDER, B.S. University of Wyoming 1986; M.S. 1988; Ph.D. 1999; Professor of Animal Science 2019, 2006.

SCOTT L. LAKE, B.S. University of Nevada 1998; M.S. 2001; Ph.D. University of Wyoming 2005; Professor of Animal Science 2021, 2014, 2008. Extension Livestock Specialist. Director of Laramie R&E Center.

JAMES K. PRU, B.S. 1991 and M.S. 1993 Zoology and Physiology, University of Wyoming; Ph.D. Molecular Reproductive Biology University of Wyoming 2000; Professor and Rochelle Chair of Animal Science 2021.

BARBARA RASCO, B.S.E. University of Pennsylvania 1979; Ph.D. Food Science, University of Massachusets 1983; J.D. Seattle University 1995; Dean, College of Agriculture, Life Sciences and Natural Resources, 2019-2023.

Associate Professors:

BLEDAR BISHA, D.V.M. Agricultural University of Tirana-Albania 1999; M.S. Iowa State University 2004; Ph.D. 2009; Associate Professor of Animal Science 2019, 2013.

PAUL A. LUDDEN, B.S. University of Nebraska-Lincoln 1991; M.S. Purdue University 1994; Ph.D. University of Missouri-Columbia 1997; Associate Professor of Animal Science 2004, 1998.

STEVEN I. PAISLEY, B.S. University of Wyoming 1993; M.S. 1995; Ph.D. Oklahoma State University 1998; Extension Beef Cattle Specialist; Associate Professor of Animal Science 2007, 2001. Director of SAREC R&E Center.

WHIT STEWART, B.S. Brigham Young University-Idaho 2008; M.S. Oregon State University 2010; Ph.D. New Mexico State University 2015; Assistant Professor of Animal Science 2017.

Assistant Professors:

JEREMY BLOCK, B.S. University of Missouri 1998; M.S. University of Florida 2003; Ph.D. 2007; Assistant Professor of Animal Science 2020.

HANNAH C. CUNNINGHAM-HOLLINGER, B.A. St. Olaf College 2012; M.S. University of Wyoming 2014; Ph.D. 2018; Assistant Professor of Animal Science 2019.

DANA K. DITTOE, B.S. Mississippi State University 2016; M.S. 2017; Ph.D. University of Arkansas 2020. Assistant Professor 2023

CODY GIFFORD, B.S. 2013, M.S. 2016; Ph.D. Colorado State University 2019; Assistant Professor of Animal Science 2019.

PAULO M.T. LIMA, B. S. 2011 Veterinary Medicine, University of Brasília (Brazil); M. S. 2013 Animal Sciences, University of Brasília (Brazil); Ph.D. 2016 Sciences, Center for Nuclear Energy in Agriculture - University of São Paulo (Brazil); Assistant Professor Animal Science/Precision Livestock Specialist 2023, University of Wyoming.

BRANDON L. ROBERTS, B.S. 2009 and Ph.D. 2015 Neuroscience, Washington State University; Assistant Professor in Dept. of Zoology & Physiology and Dept. of Animal Science 2023.

SHELBY ROSASCO, B.S. California State University 2012; M.S. New Mexico State University 2016; Ph.D. New Mexico State University 2020; Assistant Professor of Animal Science 2020.

Academic Professional Lecturers:

LANDON K. ELDRIDGE, B.S. 2019 and M.S. 2023 Animal Science, Texas A&M University.

JENNIFER A. INGWERSON-NIEMANN, B.S. University of Nebraska-Lincoln 2005; M.S. Iowa State University 2014; Academic Professional Lecturer in Animal Science 2014.

McKENSIE K. PHILLIPS, B.S. University of Wyoming 2015; M.S. Texas A&M University 2017; Assistant Lecturer in Animal Science 2018.

Adjunct Professors:

Kristi Cammack, Jeff Chandler, Thomas Hansen, John Johnston, Tom McDonald, Peter Nathanielsz, Mark Nijland, Heywood Sawyer, Donal Skinner, D. Paul Thomas, Meijun Zhu

Professors Emeriti:

Ray Field, Bret Hess, Frank Hinds, Doug Hixon, Steven W. Horn, Conrad Kercher, Warrie Means, Richard J. McCormick, Gary Moss, William Murdoch, Johannes Nel, Bibek Ray, Dan Rule

Introduction

The Department of Animal Science offers a variety of courses in animal and food science. The department uses modern laboratories and excellent animal facilities including a livestock teaching arena and a meat processing facility.

The Department of Animal Science and the Department of Veterinary Science have a combined curriculum, under Animal and Veterinary Science (ANVS). The curriculum has options in production, range livestock, business, communication, animal biology, preveterinary medicine, meat science and food technology, and equine science. The curriculum leads to a wide variety of career opportunities for animal and veterinary science graduates.

B.S. in Animal and Veterinary Science

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the bachelor of science degree in animal and veterinary science. Courses in animal science, food science, and pathobiology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various concentrations provide maximum flexibility to meet the changing needs of students and their employers.

Our concentrations allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal Biosciences Concentration

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

Equine Science Concentration

This concentration is designed to provide a strong foundation in animal and equine science and its application to equine production and management for those interested in a career in the horse industry.

Food Animal industries Concentration

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

Pre-Veterinary Medicine Concentration

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

Undergraduate Minors

The Departments of Animal Science and Veterinary Sciences offers two minors:

- Animal and Veterinary Science Minor
- Equine Science Minor

Graduate Study

Masters Program

The Departments of Animal Science and Veterinary Science offer programs leading to the M.S. (Plan A and Plan B) and Ph.D. degrees in animal and veterinary science. A M.S. degree in food science and human nutrition is offered in cooperation with the Department of Family and Consumer Sciences. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. Biomedical Science Program.

Food Science

Food science is the application of basic sciences to the processing, quality control, storage, distribution and consumer use of food products. The microbiological, chemical and physical characteristics of foods as related to food processing and product quality are studied. Major emphasis is placed in the area of animal food products.

Doctoral Program

The program requires 72 hours. Students must follow minimum graduate requirements.

Major

Animal and Veterinary Science, B.S.

The Depts of Animal Science and Veterinary Sciences jointly offer the B.S. degree in Animal and Veterinary Science. Courses in animal science, food science, and pathobiology form four concentrations tailored to the student's interests/career goals.

Concentrations

- Animal and Veterinary Science, B.S. (Animal Biosciences Concentration)
- Animal and Veterinary Science, B.S. (Equine Science Concentration)
- Animal and Veterinary Science, B.S. (Food Animal Industries Concentration)
- Animal and Veterinary Science, B.S. (Pre-Veterinary Medicine Concentration)

Additional Information

Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine or graduate school, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

A grade of C or better must be earned in the following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, ANSC 3100, ANSC 4120, ANSC 4540, ANSC 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, LIFE 2022.

Students are encouraged to participate in activities related to their degree option. The university has competitive livestock, horse, wool, and meat judging teams that travel to and participate in at least one major exposition a year. Laboratories and field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Pre-vet Club, Wyoming Collegiate Cattlemens Association, Microbiology Club, Range Club, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal and Veterinary Science, B.S. (Animal Biosciences Concentration)

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Animal Biosciences Concentration

Students declaring the Animal Biosciences concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 4540 - Principles of Animal Breeding Credits: 3

- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 2220 - Pathogenic Microbiology Credits: 3
- PATB 4300 - Microscopic Anatomy Credits: 3

  Choose any 1 from the following:
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Supporting Agriculture/Math/Science

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4 **OR** (CHEM 2420 - Organic Chemistry I Credits: 4 **AND** CHEM 2440 - Organic Chemistry II Credits: 4)
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4 **OR** MICR 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PHYS 1050 - Concepts of Physics Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3

Electives

This program requires at least 19 credits of approved electives.

Animal and Veterinary Science, B.S. (Equine Science Concentration)

This concentration is designed to provide a strong foundation in animal and equine science and its application to equine production and management for those interested in a career in the horse industry.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Equine Science Concentration

Students declaring the Equine Science concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 1030 - Equine Management Credits: 3
- ANSC 2000 - Equine Industry Career Preparation Credits:
- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 3250 - Equine Behavior and Welfare Credits: 3
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4

Supporting Agriculture/Math/Science

- AGEC 1020 - Principles of Microeconomics Credits: 3

- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- ANSC 2010 - Domestic Animal Metabolism Credits: 3 **OR** CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3

Electives

This program requires at least 23 additional credits of approved elective courses.

Animal and Veterinary Science, B.S. (Food Animal Industries Concentration)

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

21 Required Credits:

- ANSC 1010 - Introduction to Animal Science Credits: 4

- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

15 Required Credits:

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Food Animal Industries Concentration

Students declaring the Food Animal Industries concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 2070 - Livestock Behavior and Handling Credits: 2
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4

Supporting Agriculture/Math/Science

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- ANSC 2010 - Domestic Animal Metabolism Credits: 3 **OR** CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3 **OR** REWM 2000 - Principles of Rangeland Management

Electives

a minimum of 26 credits of free electives are required to complete this program.

Animal and Veterinary Science, B.S. (Pre-Veterinary Medicine Concentration)

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Science Core - Pre-vet

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Pre-Veterinary Medicine Concentration

Required Courses

Students declaring the Pre-Veterinary Medicine concentration are required to take the following courses:

- MICR 2021 - General Microbiology Credits: 4 **OR** MOLB 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PATB 2220 - Pathogenic Microbiology Credits: 3

Pathobiology

Minimum of 6 Credits from the following:

- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4300 - Microscopic Anatomy Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4
- PATB 4710 - Medical Virology Credits: 3

Animal Science

Minimum of 3 Credits from the following:

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 4050 - Animal Growth and Development Credits: 3
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3

Supporting Math/Science/Chem

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4 **OR** MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- STAT 4015 - Regression Analysis Credits: 3 **OR** STAT 4025 - Design and Analysis of Experiments I Credits: 3

Electives

At least 9 hours of approved electives are required for this program.

Minor

Animal and Veterinary Science, Animal and Veterinary Science Minor

This minor provides a foundational background in animal and veterinary science for students interested in livestock and equine production, but with a primary degree program outside of ANVS.

Courses Required:

- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

At Least One of the Following:

- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Animal and Veterinary Science, Equine Science Minor

This minor provides a foundational background in equine science and its application to equine production and management for students interested in the horse industry, but with a primary degree program outside of Equine Science.

Core Courses

12 total credit hours

- ANSC 1030 - Equine Management Credits: 3
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 3250 - Equine Behavior and Welfare Credits: 3
- ANSC 4111 - Equine Health and Disease Credits: 3
  OR

- PATB 4111 - Equine Health and Disease Credits: 3

Electives

Must choose 3 courses minimum (minimum of 8 credits) - 8 to 10 total credit hours

*Maximum of 3 credits allowed in ANSC 3560

- ANSC 3555 - Equine Evaluation and Selection Credits: 3
- ANSC 3560 - Advanced Equine Evaluation and Selection Credits: 1-2 *
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Graduate

Animal and Veterinary Science, M.S.

Both Plan A (Thesis) and Plan B (Non-thesis) options are available.

Plan A (Thesis)

The student, major professor, and graduate committee determine the program of study and research project, which meets the needs of the individual student. The candidate's graduate committee should be established and functioning by the time the student has completed 12 semester hours of formal coursework. The master of science program should be approved and filed by the end of the student's second semester of graduate study in animal science. This committee shall also determine if the student is making satisfactory progress to be advanced to a candidate for a master's degree or continued in a doctoral program by the end of the student's third semester following matriculation.

The student can specialize in breeding, food science and human nutrition, nutrition, physiology, meat science, reproduction or wool for coursework and thesis/dissertation project. In addition, supporting coursework is available in agricultural economics, biochemistry, microbiology, range management, genetics, statistics, and other areas of interest to the individual. In certain cases it is possible to develop a joint research project between animal science and another department.

Students may use the research facilities and herds of beef cattle, sheep, and swine at the university livestock center near the university or at one of the university research and extension centers in the state. Research laboratories are located on campus and include a modern meat processing facility.

The Thesis program is a 30 hour program, 26 hours of coursework and 4 hours of thesis research.

Plan B (Non-thesis)

The Non-thesis program requires a coursework-intensive, non-thesis master of science program for those students whose career paths may not require a thesis research program.

The program requires 32 hours of coursework in addition to an acceptable non-thesis research paper as defined by the student's graduate committee.

Options

Program Specific Degree Requirements

A minimum of 30 credit hours including 4 thesis hours must be earned in 4000-5999 level courses.

The program of study is arranged with the student's graduate committee.

Animal and Veterinary Science, Ph.D.

A 72 hour program.

Students must meet the university minimum requirements.

Department of Botany

114 Aven Nelson Building, (307) 766-2380
FAX: (307) 766-2851

Website: www.uwyo.edu/botany

Department Head: Brent E. Ewers

Professors:

ELLEN D. CURRANO, B.Sc. (Hons.) University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Botany 2022, 2014.

BRENT E. EWERS, B.S. Colorado State University 1995; M.S. Duke University 1997; Ph.D. 1999; Professor of Botany 2014, 2002.

DANIEL C. LAUGHLIN, B.S. Calvin College 1999; M.S. Pennsylvania State University 2002; Ph.D. Northern Arizona University 2009; Professor of Botany 2022, 2017.

STEVEN L. MILLER, B.S. University of Wyoming 1979; M.S. Virginia Polytechnic Institute and State University 1982; Ph.D. 1985; Professor of Botany 2002, 1990.

CAMELLIA OKPODU, B.S. North Carolina State University 1987; Ph.D. North Carolina State University 1994; Professor of Botany 2021.

DAVID TANK, B.S. (Hons.) Michigan State University 1998; M.S. Michigan State University 2000; Ph.D. University of Washington 2006; Professor of Botany 2021.

CYNTHIA WEINIG, B.A. (Hons.) Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

DAVID WILLIAMS, B.A. The University of Texas, Austin 1985; M.S. Texas A&M University 1988; Ph.D. Washington State University 1992; Professor of Botany 2009, 2003.

Associate Professors:

CATHERINE E. WAGNER, B.A. (Hons.) Whitman College 2004; Ph.D. Cornell University 2011; Assistant Professor of Botany 2015.

Assistant Professors:

LAUREN SHOEMAKER, B.A. (Hons.) Colorado College 2011; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

CHRISTOPHER WEISS-LEHMAN, B.A. Earlham College 2010; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

Senior Lecturer:

MARK E. LYFORD, B.A. St. Olaf College 1993; M.S. University of Wyoming 1995; Ph.D. 2001; Senior Lecturer in Botany 2014, 2005.

Associate Instructional Professor:

CHRISTOPHER NORTH, B.S. Virginia Polytechnic Institute and State University 2002; M.S. Eastern Illinois University 2005; Ph.D. University of Wyoming 2017; Associate Instructional Professor in Botany 2022, 2014.

Assistant Instructional Professor:

JAMIE CRAIT, B.Sc. Oregon State University 1999; M.S. University of Wyoming 2005; Ph.D. 2013; Assistant Lecturer in Botany 2018.

Senior Research Scientist:

BURRELL E. NELSON, B.A. Andrews University 1971; M.A. University of Wyoming 1974; Senior Research Scientist.

Research Scientist:

BEN LEGLER, B.S. University of Washington 2001; M.S. University of Wyoming 2010; Research Scientist 2021.

Professors Emeriti:

Dennis H. Knight, Stephen T. Jackson, William A. Reiners

Associate Professors Emeriti:

Daniel B. Tinker

Botany

Botany is the study of plants and their relationship to human affairs. The science is fundamental to food, fiber and pharmaceutical production; to the management of landscapes for beauty, recreation, forest products and forage; and to the protection of landscapes against pollution and other abuses. The botanist is concerned with the diversity and classification of plants and fungi, their structure at both the macroscopic and microscopic levels, and their physiology, ecology and genetics and evolutionary relationships.

Courses in botany have been developed to meet the needs of the following groups of students: those who desire a general knowledge of the subject for its cultural value, those specializing in areas which require a background in plant biology, and those selecting botany or biology as a major.

Undergraduate Degrees:

Students can choose from two undergraduate degree majors: the Botany B.S. and Biology B.S. programs. The Biology B.S. program includes an optional Concentration in Ecology and Evolution. The Biology B.S. degree program also maintains a concurrent major offered through the College of Education whereby students fulfill all the major requirements for Biology on top of their requirements for the B.S. degree in Secondary Science Education with a major in Biological Sciences Education.

Undergraduate Minors:

Minors in Biology and Botany are offered.

Graduate Study:

The Department of Botany offers graduate programs leading to the master of science and the doctor of philosophy degrees in botany.

Program Specific Admission Requirements (Graduate Study)

A minimum GPA of 3.000 on previous coursework is required.

Program Specific Degree Requirements (Graduate Study)

Regardless of field of specialization, all candidates will be held responsible for basic information in the following areas: genetics, physiology, morphology, and evolutionary and environmental botany. A knowledge of chemistry (including organic and elementary biochemistry), physics, calculus, and statistics may be required.

A minimum GPA of 3.000 must be maintained. Any course in which a C (or below) or U is obtained cannot be counted toward the degree requirement.

Participation in seminars will be required of all candidates during their residence at the University of Wyoming.

Major

Biology, B.S.

The Bachelor of Science degree in Biology is designed to provide a thorough foundation in biology as well as other supporting areas of physical and life sciences and mathematics while providing flexibility and student choice.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Information

The biology major is designed for students interested in obtaining a broad education in biological sciences. It enables students to combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the major. On completion of the core requirements for the major, specific courses selected to complete the major may vary according to students' interests and are worked out by consultations between student and adviser. The requirements for a Bachelor of Science degree in biology are as follows:

A grade of C or better is required in all major classes.

The degree program is administered by the Department of Botany.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Course Requirements

Lower Division Courses: 42 Hours

- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
  OR
- CHEM 1000 - Introductory Chemistry Credits: 4

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

- LIFE 2100 - Intro Research and Analysis Credits: 4
  OR
- STAT 2050 - Fundamentals of Statistics Credits: 4

Foundational Biology

Choose two from the following:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MICR 2021 - General Microbiology Credits: 4 - *MOLB2021 also fulfills this course requirement*

Data Science Course: 3 Hours

Choose one from the following:

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3

Upper Division Courses: 18 Hours

- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

Biology, Ecology and Evolution Concentration, B.S.

Students will receive the academic training to become environmental consultants and educators, ecologists and natural resource managers, conservation scientists, and research technicians in academic or government agencies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

The Department of Botany offers the Ecology and Evolution Concentration for Biology majors. This concentration will prepare students for a career or further graduate study. In addition to core concepts and theories, this concentration will teach students important skills that are required in the workforce, including organism identification, quantitative reasoning, data analysis, and scientific communication. Students also will have opportunities to participate in faculty research projects, which will train them for graduate research, careers in scientific discovery, or any endeavor where critical thinking and problem solving are essential components of the vocation.

To fulfill the requirements of the concentration, students will select five courses that meet a minimum of 15 credit hours in addition to what is required for the Biology Major. These will be selected from a variety of upper-division (3000-4000) courses that satisfy their individual interests (listed below).

Students must select:

1. one course in organismal biology (A),
2. one course in ecology (B),
3. one course in evolution (C),
4. any one additional course from these three categories,
5. and one fourth-year capstone course (D).

Students who concentrate in Ecology and Evolution should plan to take LIFE3500 - Evolutionary Biology in their third year to be able to take an additional evolution course before graduating. All courses listed below will count toward this concentration. However, there are many other excellent courses offered across campus that are relevant to this concentration. Students can obtain approval to take other courses that are not included on the list below to satisfy the requirements of the concentration.

List of Potential Courses

A. Organismal Biology

- BOT 3600 - Plant Diversity and Systematics Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- BOT 4360 - Mushrooms of the Rocky Mountains Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

- ZOO 4540 - Invertebrate Zoology Credits: 4
- BOT 4395 - Symbiosis of Forest Ecosystems Credits: 3

B. Ecology

- BOT 4700 - Vegetation Ecology Credits: 4
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4650 - Tropical Field Ecology Ecuador Credits: 4

- BOT 4280 - Paleobotany Credits: 4
  OR
- GEOL 4280 - Paleobotany Credits: 4

- BOT 4780 - Biogeochemistry Credits: 3
- BOT 4235 - Marine Biology Credits: 3
- BOT 4200 - Plant-Microbe Interactions Credits: 3

C. Evolution

- BOT 4790 - Special Topics in Ecology Credits: 1-3 (Macroevolution)
- BOT 4790 - Special Topics in Ecology Credits: 3 (Evolution of development)
- BOT 4790 - Special Topics in Ecology Credits: 3 (Evolution seminar)

- BOT 5060 - Fundamental Concepts in Evolution Credits: 3
  OR
- ZOO 5060 - Fundamental Concepts in Evolution Credits: 3

D. Senior Capstone Course

- BOT 4444 - Biology Capstone Credits: 3
  OR
- BOT 4965 - Undergraduate Research in Botany Credits: 1-10

Botany, B.S.

The Bachelor of Science degree in Botany is designed to provide a thorough foundation in botany as well as other supporting areas of physical and life sciences and mathematics.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Lower Division Courses: 41-42 Hours

Students take introductory courses in biology, chemistry, physics, and mathematics. These courses provide the foundation for more advanced work in upper division biology courses and contribute to a more comprehensive understanding of biological processes.

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
  OR
- MICR 2021 - General Microbiology Credits: 4
  OR
- MOLB 2021 - General Microbiology Credits: 4

- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3
  OR
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Upper Division Courses: 40-42 Hours

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- BOT 3600 - Plant Diversity and Systematics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- LIFE 3050 - Genetics Credits: 4
- LIFE 3500 - Evolutionary Biology Credits: 3

- BOT 4280 - Paleobotany Credits: 4
  OR
- BOT 4200 - Plant-Microbe Interactions Credits: 3

- BOT 4780 - Biogeochemistry Credits: 3
- BOT 4775 - Forest Ecology Credits: 4
- BOT 4550 - Computational Biology Credits: 4
  OR
- BOT 5600 - Ecological Modeling Credits: 3

- BOT 4700 - Vegetation Ecology Credits: 4
- BOT 4444 - Biology Capstone Credits: 3
  OR
- BOT 4965 - Undergraduate Research in Botany Credits: 1-10

BOT Elective Requirement: 4 Hours

Choose 4 credit hours from the following:

- BOT 3000-BOT 5999

Minor

Biology, Minor

Students may combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the minor.

Additional Information

Students who are majoring in Biology may not declare a Minor in Biology. Elective credit hours used toward the Biology Minor must be in courses not being counted towards a student's major. A grade of "C" or better is required in all courses. At least 25% of credit hours for the Biology Minor must be earned in upper division courses.

Credit in other courses with different prefixes in the biological sciences area may be applied to the minor in Biology at the discretion of a student's minor advisor.

Required Courses: 12 Hours

- LIFE 1010 - General Biology Credits: 4

  Choose two from the following:
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MICR 2021 - General Microbiology Credits: 4 - *MOLB2021 also fulfills this course requirement*

Elective Courses: 9-12 Hours

Select one different course from each of three of the following subject areas.

Molecular/Genetics/Cell Biology:

- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3

Morphology/Physiology:

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- BOT 4395 - Symbiosis of Forest Ecosystems Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4

Evolution:

- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- BOT 4280 - Paleobotany Credits: 4

Ecology:

- BOT 4280 - Paleobotany Credits: 4
- BOT 4700 - Vegetation Ecology Credits: 4
- BOT 4730 - Plant Physiological Ecology Credits: 4
- BOT 4745 - Terrestrial Ecosystem Ecology Credits: 3
- BOT 4775 - Forest Ecology Credits: 4
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Botany, Minor

The Botany minor provides foundational coursework in botany as well as other supporting areas of physical and life sciences and mathematics.

Required Courses Credits: 11-12 Hours

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4

- BOT 4640 - Flora of the Rocky Mountains Credits: 3
  OR
- BOT 4680 - Taxonomy of Vascular Plants Credits: 4

- BOT 4700 - Vegetation Ecology Credits: 4
  OR
- BOT 4775 - Forest Ecology Credits: 4

Upper Division BOT Elective Requirement: 7 Hours

Choose 7 credit hours (minimum) from the following:

- BOT 3000-BOT 5999

Graduate

Botany, M.S.

Requirements for this degree are 26 semester hours of courses approved by the student's committee plus 4 hours of BOT5960 - Thesis Research.

Botany, Ph.D.

In addition to the minimum requirements set forth in this Catalog, the Department of Botany may require that a student demonstrate skills in two peripheral areas. This decision is made for individual cases by the major professor and graduate committee. These could include foreign languages, statistics, or computer science. In some cases, additional skills may be required.

Department of Ecosystem Science and Management

2013 Agriculture Building
(307) 766-2263
FAX: (307) 766-6403
Website: uwyo.edu/esm
Department Head: Timothy R. Collier

Professors:

JEFFREY L. BECK, B.S. Brigham Young University 1993; M.S. 1996; Ph.D. University of Idaho 2003; Professor of Rangeland Ecology and Watershed Management 2018, 2007.

THIJS KELLENERS, B.S. Wageningen University, The Netherlands 1988; M.S. 1993; Ph.D. 2001. Professor of Soil Science 2018, 2012.

SCOTT N. MILLER, B.S. Brown University 1991; M.S. University of Arizona 1995; Ph.D. 2002; Professor of Rangeland Ecology and Watershed Management 2017, 2002.

MELANIE MURPHY, B.S. University of Idaho 1998; M.S. 2001; Ph.D. Washington State University 2008; Professor of Rangeland Ecology and Watershed Management 2023, 2010.

VIRGINIA B. PAIGE, B.A. Colorado College 1984; M.S. University of Massachusetts 1992; Ph.D. University of Arizona 2000; Professor of Rangeland Ecology and Watershed Management 2019, 2004.

SCOTT R. SHAW, B.S. Michigan State University 1977; M.S. University of Maryland 1981; Ph.D. 1984; Professor of Entomology 1998, 1989.

Associate Professors:

DAVID CHRISTIANSON, B.S. Montana State University 2003; Ph.D. 2008; Associate Professor of Rangeland Ecology and Watershed Management 2021, 2019.

TIMOTHY R. COLLIER, B.S. University of California-Riverside 1987; Ph.D. University of California-Santa Barbara 1994; Associate Professor of Entomology 2008, 2002.

KRISTINA HUFFORD, B.A. University of California-Berkeley 1993; Ph.D. University of Georgia 2001; Associate Professor of Rangeland Ecology and Watershed Management 2017, 2010.

FABIAN NIPPGEN, M.S. Albert-Ludwigs University 2007; Ph.D. Montana State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2023, 2017.

J. DEREK SCASTA, B.S Texas A&M University 2004; M.S. 2008; Ph.D. Oklahoma State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2020, 2014.

LINDA VAN DIEPEN, B.S. Hogeschool IJselland, Deventer 1999; M.S. Wageningen University 2002; Ph.D. Michigan Technological University 2008; Associate Professor of Soil Microbiology 2021, 2015.

KAREN L. VAUGHAN, B.S. University of Delaware-Newark 2001; M.S. University of Maryland-College Park 2004; Ph.D. University of Idaho-Moscow 2008; Associate Professor of Pedology 2021, 2015.

Assistant Professors:

TUCKER FURNISS, B.S. University of Washington 2011; M.S. Utah State University 2016; Ph.D. 2021; Assistant Professor of Rangeland Ecology and Watershed Management 2023.

Lecturers:

BRIAN SEBADE, B.S. University of Wyoming 2008; M.S. 2010**;** Assistant Lecturer in Rangeland Ecology and Watershed Management 2023.

Academic Professionals:

SCOTT SCHELL, B.S. University of Wyoming 1991; M.S. 1994; Senior Extension Entomologist 2005, Associate Research Scientist 2009.

Adjunct Professors:

Justin Derner, Brenda Schladweiler, Gerald Schuman, Ramesh Sivanpillai, Kevin Wilcox

Professors Emeriti:

Ann Hild, Alexandre Latchininsky, David Legg, Larry Munn, Richard Olson, Katta Reddy, J. Daniel Rodgers, Quentin Skinner, Michael Smith, Peter Stahl, John A. Tanaka, George Vance, James Waggoner, James Wangberg, Thomas Wesche, Stephen Williams

Undergraduate Study

The Department of Ecosystem Science and Management offers a Bachelor of Science degree in Rangeland Ecology and Watershed Management. This degree can also be obtained as an affiliate degree in conjunction with the School of Environment and Natural Resources. Five minor degree programs are offered through the department: Forest Resources, Insect Biology, Rangeland Ecology and Watershed Management, Reclamation and Restoration Ecology, and Soil Science. Obtaining a minor to complement a B.S. major degree program provides credentials and knowledge that can expand career opportunities.

The degree programs reflect the department's diverse expertise in natural resource management and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/ integrated pest management, soil science and various types of environmental consulting) or other science careers.

Student Learning Outcomes

The goal of the Department of Ecosystem Science and Management is to provide students with comprehensive knowledge in several different areas in addition to their specific area of study. These expectations ensure that students may take these learned skills and successfully apply them in their post-graduate endeavors. Assessments in all areas are based on knowledge, skills, and attitude.

These areas include:

> Oral communication encompasses all the abilities necessary for effective expression and sharing of information, ideas, and feelings in a format including verbal and nonverbal symbols.
>
> Proficiency in written communication will ensure that students will be able to write for different audiences, from expressive writing to technical writing, using a range of sophistication in language.
>
> Professional behavior involves attaining high standards of behavior and appropriate attitudes, not only through acquiring knowledge and experience but a lifelong commitment to learning and achievement.
>
> Competency in critical thinking and problem-solving enables students to engage in reasonable, reflective thinking focused on deciding what to believe or do.
>
> Computer and information literacy ensures that students will be viewed as trainable and adaptable in a computerized work environment. Proficiency in this area also enables students to effectively access online information, and skillfully make use of it.

Knowledge of student skills in these different areas will aid the department in:

- Planning instructional strategies to address student strengths and weaknesses;
- Evaluating and describing overall student achievement;
- Counseling students for academic and career options; and
- Evaluating the effectiveness of instructional programs.

Graduate Study

The Department of Ecosystem Science and Management is an interdisciplinary department made up of five disciplines: entomology, rangeland ecology, soil sciences, reclamation/restoration, and watershed management. The department offers master of science and doctor of philosophy degrees in entomology, rangeland ecology and watershed management, and soil science. For the rangeland ecology and watershed management degrees, thesis and dissertation problems may be developed in aspects of range ecology, wildlife habitat, reclamation of disturbed lands, watershed management, utilization and improvement of rangelands, and many other facets of range and forest ecology management. For the entomology degrees, thesis and dissertation problems may be developed in many areas of basic and applied aspects of insect biology and ecology. For soil degrees, thesis and dissertation problems may be developed in many basic and applied aspects of soil science. The degree programs reflect the department's diverse expertise in natural resource and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/integrated pest management, soil science, and various types of environmental consulting) or other science careers. A graduate certificate in reclamation and restoration ecology may be obtained after completion of a B.S. degree or in conjunction with an M.S. or Ph.D. degree. Graduate students may also obtain interdisciplinary degrees in association with ESM faculty advisors: M.S. in Water Resources in combination with a number of other degrees, Ph.D. in Hydrologic Sciences or Ph.D. in Ecology and Evolution.

Program Specific Admission Requirements

Admission is contingent upon a faculty member being willing to assume responsibility for mentoring the student as an advisor.

Applicants are encouraged to initiate correspondence with faculty who share similar research interests as part of the process of securing faculty advising commitment. Prospective students that have not identified a graduate advisor willing to mentor them will not be considered for admission.

In special circumstances, and with the faculty advisor's support, a student may be admitted on a provisional basis with continued enrollment dependent upon meeting performance requirements specified at the time of admission.

Program Specific Graduate Assistantship Information

Prospective students are encouraged to directly correspond about future opportunities for graduate assistantships with faculty that share similar research interests.

Graduate courses in the department are offered in entomology, rangeland ecology and watershed management, renewable resources, and soil science.

Environment and Natural Resources Affiliate Degrees

The Bachelor of Science degree in Rangeland Ecology and Watershed Management may also be obtained as an affiliate degree with the School of Environment and Natural Resources. In this case, the degree titles would be Environment and Natural Resources/Rangeland Ecology and Watershed Management. The additional coursework requirements necessary for obtaining an affiliate degree are described in the School of Environment and Natural Resources section of this publication.

Interdisciplinary Graduate Degrees

- Agricultural Economics/Water Resources, M.S. Interdisiplinary
- Ecology and Evolution, Ph.D.
- Geophysics/Water Resources, M.S. Interdisciplinary
- Hydrologic Sciences, Ph.D. (WRESE)
- Rangeland Ecology and Watershed Management/Water Resources, M.S. Interdisciplinary
- Soil Science/Water Resources, M.S. Interdisciplinary

Major

Rangeland Ecology and Watershed Management, B.S.

Rangeland Ecology and Watershed Management provides you with the knowledge, skills, and tools to understand and manage range- and wild-lands in a diversity of landscapes and ecosystems.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Course Requirements

Core Requirements (Courses must be completed with a grade of C or better): 58 Hours

Choose one from LIFE 2022 or LIFE 2023:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

- LIFE 3400 - General Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4530 - Seminar Credits: 1
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- AGEC 4700 - Economics of Range Resources Credits: 3

Choose one from RNEW 4130 or GIST 2310:

- RNEW 4130 - Applied Remote Sensing Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Additional Requirements (15 of these credit hours fulfill USP requirements): 18 Hours

- CHEM 1000 - Introductory Chemistry Credits: 4
- ECON 1020 - Principles of Microeconomics Credits: 3 - *AGEC 1020 also fulfills this course requirement*
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Free Electives: 29 Hours

Remaining credit hours fulfilled by USP requirements: 15 Hours

Minor

Forest Resources Minor

In Forest Resources, you will gain a working knowledge of the processes that influence forest ecology, sustainability, and harvest of the key products derived from forests.

Minimum Requirements: 20 Hours

Required Courses

- RNEW 2100 - Forest Management Credits: 3
- SOIL 4150 - Forest and Range Soils Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4
- REWM 4540 - Problems Credits: 1-4

Choose one from REWM 3100, REWM 4285, or REWM 4700:

- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4700 - Wildland Watershed Management Credits: 3

Choose one from ENR 2300, ENR 3050, ENR/GEOG 4040, or ORTM 3000:

- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3 - *GEOG 4040 also fulfills this course requirement*
- ORTM 3000 - Tourism Theory and Practice Credits: 3

Choose one from REWM 2000, REWM 4440, ZOO 2450, or GEOG 4470:

- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- GEOG 4470 - Fire Ecology Credits: 3

Insect Biology Minor

In Insect Biology, you will learn about insects and their relatives, including basic biology, behavior, ecology, and evolution.

Minimum Requirements: 13 Hours

Required: 3-4 Hours

Choose one from ENTO 1000 or ENTO 1001:

- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

9-10 additional credit hours from the following to meet minimum requirement: 9-10 Hours

- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4678 - Aquatic Entomology Credits: 3
- ENTO 4682 - Insect Anatomy and Physiology Credits: 5
- ENTO 4684 - Classification of Insects Credits: 4
- ENTO 4686 - Problems in Entomology Credits: 1-3
- ENTO 4687 - Insect Evolution Credits: 3
- ENTO 4884 - Insect Behavior Credits: 3

Rangeland Ecology and Watershed Management Minor

Rangeland Ecology and Watershed Management introduces the knowledge, skills, and tools to understand and manage range- and wild-lands in a diversity of landscapes and ecosystems.

Minimum Requirements: 22 Hours

Required Courses

- LIFE 1010 - General Biology Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4530 - Seminar Credits: 1
  Plus 3 hours selected from other REWM upper-division (3000- or 4000-level) courses

Reclamation and Restoration Ecology Minor

This program covers the use of basic and applied ecological concepts in the rehabilitation, reclamation and restoration of disturbed ecosystems.

Minimum Requirements: 23 Hours

Required Courses: 15 Hours

- LIFE 3400 - General Ecology Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4 - *Only 2 credit hours of RNEW 4990, Topics in: Ecosystem Restoration, satisfies this requirement.*

Above-Ground Processes: 2-4 Hours

Choose one from BOT 4700, CE 4800, ENTO 4678, REWM 4285, REWM 4540, REWM 4700, REWM 4710, REWM 4750, or REWM 4850:

- BOT 4700 - Vegetation Ecology Credits: 4
- CE 4800 - Hydrology Credits: 3
- ENTO 4678 - Aquatic Entomology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4540 - Problems Credits: 1-4
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3

Below-Ground Processes: 3-4 Hours

Choose one from SOIL 4100, SOIL 4120, SOIL 4140, SOIL 4150, or SOIL 4160:

- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

Planning and Policy: 3 Hours

Choose one from AGEC 4710, ENR 3000, GEOG 4040, REWM 4051, REWM 4052, or REWM 4900:

- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- REWM 4051 - Environmental Politics Credits: 3
- REWM 4052 - Federal Land Politics Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3

Soil Science Minor

This program is designed to enhance soil expertise for students majoring in degree programs related to agriculture, natural resources, and/or environmental sciences.

Minimum Requirements: 15 Hours

Required Courses

- SOIL 2010 - Introduction to Soil Science Credits: 4
  Plus 11 credits of upper-division soil science courses for a total of 15 credits

Additional Information

Undergraduate students minoring in Soil Science will enhance their job prospects with federal land management or conservation agencies (e.g., Forest Service, Bureau of Land Management, Natural Resources Conservation Society), state and federal regulatory agencies (e.g., Wyoming Department of Environmental Quality), mining and oil companies, environmental consulting companies, or scientific research organizations.

Graduate

Entomology, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research in Entomology.

Plan A (Thesis)

The master of science degree normally is offered under Plan A which requires at least the university minimum degree requirements and an oral examination.

Plan B (Non-thesis)

Requires 30 hours of graduate credit to include 9 hours of required courses, 11 hours of required electives, and 10 hours of other electives.

A Plan B master of science will be a terminal degree program in the Department of Ecosystem Science and Management. Students completing this option will not qualify for a subsequent Ph.D. program in Department of Ecosystem Science and Management at the University of Wyoming.

Additional Requirements

This program requires 30 credit hours (at least 12 from Entomology) approved by the student's graduate advisory committee and an approved research proposal.

Entomology, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in Entomology.

Additional Requirements

This program requires 72 credit hours (at least 12 from Entomology) that may include credits earned during a master's degree that are approved by the student's graduate advisory committee. The program also requires an approved research proposal.

Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework complete) and a final oral examination.

Insect Biology/Entomology Graduate Study Minor

This minor is designed to complement a related graduate degree. Knowledge of the biology, ecology and classification of insects is crucial to understanding the effects they have on agriculture, human health, and ecosystems.

Rangeland Ecology and Watershed Management, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to communicate with the public and potential clients and to conduct rigorous scientific research in rangeland ecology and watershed management.

Plan A (Thesis)

The master of science degree normally is offered under Plan A which requires at least the university minimum degree requirements and an oral examination.

An oral defense of the thesis is required.

Plan B (Non-thesis)

Plan B is available under special circumstances and requires 30 hours of graduate coursework.

Plan B candidates must also prepare one professional paper (i.e., content and form compatible with publication in a scientific journal) or, if the adviser requests, two professional papers in selected topic areas.

An oral defense of the paper(s) is required.

Additional Requirements

This program requires 30 credit hours (at least 12 from Rangeland Ecology and Watershed Management) approved by the student's graduate advisory committee and an approved research plan.

Rangeland Ecology and Watershed Management, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in rangeland ecology and watershed management.

Requirements

This program requires 72 credit hours (at least 12 from Rangeland Ecology and Watershed Management) that may include credits earned during a master's degree that are approved by the student's graduate advisory committee. The program also requires an approved research plan. Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework is complete) and a final oral examination.

Soil Science, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research in soil science.

Plan A (Thesis)

Plan A requires the university minimum degree requirements and an oral final examination.

Plan B (Non-thesis)

Plan B is available and requires 30 hours of graduate coursework.

An oral defense of the paper(s) is required.

Additional Requirements

This program requires 30 credit hours (at least 12 from Soil Science) approved by the student's graduate advisory committee and an approved research plan.

Soil Science, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in soil science.

Additional Requirements

This program requires 72 credit hours (at least 12 from Soil Science) that include credits earned during a master's degree that are approved by the student's graduate advisory committee and an approved research plan.

Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework is complete) and a final oral examination.

Certificate

Reclamation/Restoration Ecology Graduate Certificate

The Reclamation/Restoration Ecology (RRE) graduate certificate prepares the student to use basic and applied ecological concepts to reclaim, rehabilitate, and restore disturbed ecosystems.

Minimum Requirements: 15 Hours

Reclamation and Restoration Ecology: 8 Hours

- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- RNEW 5990 - Topics In: Credits: 1-4 - *Only 2 credit hours of RNEW 5990, Topics in: Ecosystem Restoration, satisfies this requirement.*

Reclamation Problems: 4 Hours

- SOIL 5565 - Research in Soil Science Credits: 1-4
  AND/OR
- REWM 5640 - Investigation Credits: 1-4

Electives: 3 Hours

Choose one from the following options:

- BOT 5700 - Vegetation Ecology Credits: 4
- BOT 5730 - Plant Physiological Ecology Credits: 4
- BOT 5780 - Biogeochemistry Credits: 3
- PLNT 5070 - Weed Science and Technology Credits: 4
- PLNT 5470 - Seed Science and Technology Credits: 3
- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5570 - Advanced Geohydrology Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- REWM 5750 - Wildlife Habitat Restoration Ecology Credits: 3
- RNEW 5540 - Shrubland Ecology Credits: 3
- SOIL 5110 - Modeling Water and Chemical Transport in Vadose Zone and Groundwater Systems Credits: 4
- SOIL 5130 - Chemistry of the Soil Environment Credits: 3
- SOIL 5140 - Soil Microbiology Credits: 4
- SOIL 5150 - Forest and Range Soils Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

Additional Information

The graduate certificate will be granted to students who have completed a B.S. in an appropriate science-oriented discipline or are currently enrolled in an M.S. or Ph.D. program.

The graduate certificate will also be available to professionals working in reclamation/restoration-oriented fields seeking to upgrade their training in reclamation and restoration ecology. Those interested in the graduate certificate will be required to complete the course work listed above, as well as write a synopsis paper with a formal presentation advertised as an open forum seminar.

Department of Family and Consumer Sciences

251 Agriculture Building, (307) 766-4145
FAX: (307) 766-5686
Web site: www.uwyo.edu/fcs
Department Head: Dr. Jill Keith

Associate Professors:

JENNIFER HARMON, B.S. Illinois State University 2009; M.S. The Ohio State University 2013; Ph.D. 2014; Associate Professor, Design, Merchandising, and Textiles 2021, 2015.

ERIN IRICK, B.S. Kansas State University 2000; M.S. 2006; Ph.D. Oklahoma State University 2013; Associate Professor, Design, Merchandising, and Textiles 2019, 2013.

JILL KEITH, B.S. North Dakota State University 2000; M.S. Capella University 2009; Ph.D. North Dakota State University 2016; Associate Professor, Human Nutrition and Food/Dietetics 2022, 2016.

ALYSSA McELWAIN, B.A. Kansas State University 2006; M.S. Purdue University 2008; Ph.D. Auburn University 2015; Associate Professor, Human Development and Family Sciences 2021, 2015.

BERNARD STEINMAN, B.A. University of Washington 1991; M.S. Mississippi State University 2004; Ph.D. University of Southern California 2010; Associate Professor, Human Development and Family Sciences 2022, 2015.

CHRISTINE WADE, B.S. Willamette University 2001; M.S. University of Wyoming 2005; Ph.D. 2008; Associate Professor, Human Development and Family Sciences 2015, 2008

Assistant Professors:

GRACE SHEARRER, B.S. University of Wyoming 2012; Ph.D. University of Texas at Austin 2016. Assistant Professor, Human Nutrition and Food/Dietetics 2020.

Academic Professionals:

JENNA CHALCRAFT, B.S 2013 University of Wyoming; M.S. 2019; Assistant Lecturer/Program Director Human Nutrition and Food/Dietetics 2023

SARAH LEE, B.A. and M.S. University of Wyoming 1981; 1996; Assistant Lecturer, Human Development and Family Sciences 2020.

TREVA SPROUT AHRENHOLTZ, B.S. 1993, 1997 University of Wyoming; M.S. 1995; Senior Lecturer, Design, Merchandising, and Textiles 2013, 2005.

Professor Emeritus:

Donna Brown, Bruce Cameron, Saul Feinman, Michael Liebman, Judith A. Powell, Rhoda Schantz, Virginia Vincenti, Mary Kay Wardlaw, Randolph R. Weigel, Karen Williams

Department Information

Our mission is to enhance the physical, social, and economic well-being of individuals, families, and communities, emphasizing healthy and sustainable living across the lifespan. We fulfill our mission through instructional, research, and outreach/extension efforts that challenge, motivate, and inspire.

Family and Consumer Sciences integrates the fundamental components of human life - food, shelter, clothing, human relationships, and family - with larger societal systems. Through majors in design, merchandising and textiles; human food and nutrition; and human development and family sciences, our department prepares learners to meet the opportunities and challenges of today's complex world.

All students pursuing a Bachelor of Science degree in the department of Family and Consumer Sciences are required to complete a minimum of 120 credit hours that include a) University Studies requirements (USP); b) departmental core curriculum; and c) courses in one of the following majors: Design, Merchandising and Textiles; Human Development and Family Sciences; or Human Nutrition and Food. Majors in Design, Merchandising and Textiles must select one of

three concentrations: apparel design and product development; interior design, or merchandising. Majors in Human Development and Family Sciences may select a concentration in family and consumer sciences teacher certification or professional child development. Human Nutrition and Food majors may choose to apply to the Didactic Program in Nutrition and Dietetics.

Family and Consumer Sciences Student Learning Outcomes

Students graduating with a degree from the Department of Family and Consumer Sciences will be proficient in their major as well as be able to effectively communicate (both written and orally), possess intellectual skills (such as critical and creative thinking and problem solving), and demonstrate appropriate levels of professionalism.

Family and Consumer Sciences Core Requirements

A core curriculum is required of all majors in the Department of Family and Consumer Sciences. This requirement is based on a common body of knowledge in family and consumer sciences which contains concepts relevant to all majors and concentrations.

The Family and Consumer Sciences Core consists of the following requirements.

All majors must complete the following course:

- FCSC 2200 - Professionalism and Communication in FCSC

Students must also select one course from each of the following categories outside their major, in consultation with their advisor:

Design, Merchandising and Textiles

The Design, Merchandising, and Textiles (DMT) program emphasizes the study of historic clothing and textiles, merchandising of textile and apparel products, retail business sector applications, and various aspects of apparel design, including both artistic and functional design options

Human Development and Family Sciences

The Human Development and Family Sciences (HDFS) program is designed for professionals currently working in human services fields who would like further education and serve individuals and families across the lifespan.

Human Nutrition and Food

The Human Nutrition and Food Science (HNF) program enables students to pursue studies in areas such as human nutrition and metabolism, food product development, community nutrition, food microbiology, sports nutrition, and disease prevention.

Major

Design, Merchandising and Textiles - Apparel Design and Product Development Concentration, B.S.

Allows students to develop the technical and creative skills necessary for the development of apparel and textile products from concept to finished product.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Apparel Design and Product Development Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2175 - Fashion Illustration Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 2270 - Advanced Apparel Construction Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3174 - Flat Pattern Design Credits: 3
- FCSC 3175 - Apparel Design Through Draping Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3

- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4176 - Historic Clothing Credits: 3
- FCSC 4178 - Fiber Arts Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3
- FCSC 4185 - Product Development and Technology Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3
- FCSC 4960 - International Study Tour FCS Credits: 3 **OR** FCSC 4970 - Design and Merchandising Internship

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- AGEC 1010 - Principles of Macroeconomics Credits: 3
  OR
- AGEC 1020 - Principles of Microeconomics Credits: 3
- ART 1005 - Drawing I Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
  OR
- PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

Design, Merchandising and Textiles - Interior Design Concentration, B.S.

Prepares students to creatively, effectively, and sustainably solve design problems for professional practice in residential and commercial interior design.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Interior Design Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3180 - Contract Design I Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 3188 - Interior Design Studio II Credits: 3
- FCSC 3288 - Environmental Psychology and Inclusive Design Credits: 1
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3

- FCSC 4188 - Contract Design II Credits: 3
- FCSC 4288 - Professional Practice and Advanced Interiors Studio Credits: 4
- FCSC 4960 - International Study Tour FCS Credits: 3
  OR
- FCSC 4970 - Design and Merchandising Internship Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3
- ARE 3030 - History of Architecture Credits: 3
- ART 1005 - Drawing I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
- ECON 1000 - Global Economic Issues Credits: 3
  OR
- AGEC 1010 - Principles of Macroeconomics Credits: 3
  OR
- AGEC 1020 - Principles of Microeconomics Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

Design, Merchandising and Textiles - Merchandising Concentration, B.S.

Offers knowledge and application of business principles within the fashion and interior industries; including retailing, sourcing, and marketing for apparel and interior products.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Merchandising Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 4160 - Merchandising Strategies and Technology Credits: 3
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4176 - Historic Clothing Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3

- FCSC 4960 - International Study Tour FCS Credits: 3 **OR** FCSC 4970 - Design and Merchandising Internship Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- ACCT 2010 - Principles of Accounting I Credits: 3
- AGEC 1010 - Principles of Macroeconomics Credits: 3 **OR** AGEC 1020 - Principles of Microeconomics Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4 **OR** CHEM 1020 - General Chemistry I Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- SOC 1000 - Sociological Principles Credits: 3 **OR** PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

A minor in Entrepreneurship or Professional and Technical Selling through the College of Business is recommended for students in this concentration.

Human Development and Family Science (B.S.) - Family and Consumer Sciences Teacher Certification Concentration

Leads to certification/licensure to teach family and consumer sciences (FCS) in secondary schools.

Program Information

This program is made possible through a partnership agreement with UW Family and Consumer Sciences, Colorado State University (CSU) Family and Consumer Sciences program and the CSU Center for Educator Preparation. While meeting the requirements for the Human Development and Family Sciences concentration, students will use electives from other FCS concentrations to prepare them to teach family and consumer sciences in middle or secondary schools. By participating in this partnership, students earn dual bachelor's degrees - one from UW and one from CSU. Students must earn a minimum of 154 credit hours between the two programs (minimum of 120 at UW and a minimum of 34 at CSU) in order to be awarded a degree from each institution. Additional semesters will be necessary to fulfill the requirements of both degrees.

Students must meet all entry requirements at UW and CSU. The CSU licensure program requires students to earn a C or above in all content courses and teacher licensing courses, and a passing score on the appropriate licensing exam. Therefore, a grade of C or above must be earned in all UW courses and an overall 2.750 GPA be maintained for transfer to CSU to fulfill their program requirements. Upon completion of the UW portion, students will then take the remaining courses needed to meet Wyoming and Colorado certification/licensure requirements at CSU in Ft. Collins, Colorado. In their last semester, if they so choose, Wyoming students may complete their student teaching requirements in a Wyoming FCS school classroom with supervision by a licensed FCS teacher educator. In addition to earning dual degrees, students meet the requirements to apply for certification/licensure in Wyoming and in Colorado. Both licenses are reciprocal in many other states.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Development and Family Sciences Required Courses

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
  OR
- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3

- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4125 - Professional Practices in Human Development and Family Sciences Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

Additional Required Courses

- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
- COMM 1030 - Interpersonal Communication Credits: 3
- ECON 1000 - Global Economic Issues Credits: 3
  OR
- ECON 1010 - Principles of Macroeconomics Credits: 3
  OR
- ECON 1020 - Principles of Microeconomics Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
  OR
- HIST 1221 - U.S. From 1865 Credits: 3
- LIFE 1002 - Discovering Science Credits: 3
  OR
- LIFE 1003 - Current Issues in Biology Credits: 4
  OR
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Additional Concurrent and CSU Coursework

After completion of UW coursework, three additional semesters are required for completion of this teacher certification option. The first semester will require concurrent enrollment at UW and CSU. Required UW course FCSC 4117 (online

- 3 credit hours) will be taken while enrolled at CSU to preserve WEU eligibility. Four additional credit hours must be transferred to UW from the second and third semesters' coursework at CSU to meet UW's 120 credit hour graduation requirement.

First Semester

Concurrent Fall Semester UW/CSU

- EDUC 331 - Educational Technology Credits: 2
- EDUC 340 - Literacy and the Learner - Phase I - RL Credits: 3 (Not included in WUE tuition)
- EDUC 350 - Instruction I: Individualization/Mgt - Phase II - TL Credits: 3
- EDUC 386 - Practicum - Instruction I - Phase II - TL 1
- EDCT 451 - Methods, FCS Education Credits: 4
- FCSC 4117 - Understanding Community Leadership Credits: 3 (online from UW)

Second Semester

Spring Semester at CSU

- EDUC 450 - Instruction II: Standards/ Assessment - Phase III - T Credits: 4
- EDUC 486 - Practicum - Instruction II - Phase III - TL 1
- FACS 479 - Colloquium - FCS Credits: 2

Complete one of the following and transfer it to UW:

- A course from Art/Humanities (Choose one: E140 - The Study of Literature, PHIL100 - The Appreciation of Philosophy, or TH141 - Introduction to Theater) Credits: 3
  OR
- HES 145 Health and Wellness Credits: 3

Final Semester

Fall Semester at CSU

- EDCT 485 - Student Teaching - Phase IV - TL Credits: 11
- ECDT 492 Seminar - Professional Relations - Phase IV - TL Credits: 1 (Transfer to UW)

Total UW Degree Minimum: 120 Hours

Total CSU Degree Minimum: 34 Hours

Total for Both Degrees: 154 Hours

Additional Requirements

Students must satisfactorily complete a mandatory security screen (background check).

Additional Requirements

Students must satisfactorily complete a mandatory security screen (background check).

Human Development and Family Science (B.S.) - Professional Child Development Concentration

Prepares students for teaching and administrative positions in early childhood development and care.

Program Information

The Professional Child Development concentration is offered by online delivery only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses Before Entry

Students must complete the three courses listed below prior to entry.

- EDEC 1020 - Introduction to Early Childhood Education Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Professional Child Development Required Courses After Entry

Grade of C or above required.

- FCSC 2050 - Safety, Nutrition & Health in Early Childhood Programs Credits: 2
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
  OR
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3
- FCSC 4130 - Internship in Child Development Credits: 6-8
  OR
- FCSC 4131 - Administration Internship in Child Development Credits: 6-8
- FCSC 4138 - Family Stress and Coping Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following

- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- EDEC 3000 - Observing Young Children Credits: 3
- EDEC 3220 - Curriculum and Learning Environments in Early Childhood Education Credits: 3
- EDEC 4320 - Oral and Written Language Acquisition Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
  OR
- ENGL 4075 - Writing for Non-Profits Credits: 3
- PSYC 4310 - Developmental Psychopathology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Students must satisfactorily complete a mandatory security screen (background check).

All Professional Child Development students are required to complete a 6-8 credit hour internship.

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Students must satisfactorily complete a mandatory security screen (background check).

All Professional Child Development students are required to complete a 6-8 credit hour internship.

Human Development and Family Sciences, B.S.

Prepares students to work in a variety of critical fields that serve individuals and families across the lifespan, including: children, youth, older adult and family support programs, community and governmental agencies, and higher education.

Majors may choose the Human Development and Family Science (B.S.) - Professional Child Development Concentration or Human Development and Family Science (B.S.) - Family and Consumer Sciences Teacher Certification Concentration

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Development and Family Sciences Required Courses

Grade of C or above required.

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4125 - Professional Practices in Human Development and Family Sciences Credits: 3
- FCSC 4132 - Internship in Human Development and Family Sciences Credits: 4-6
  OR
- FCSC 4130 - Internship in Child Development Credits: 6-8
  OR
- FCSC 4131 - Administration Internship in Child Development Credits: 6-8
- FCSC 4135 - Program Evaluation Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade of C or above required.

Complete one of the following:

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3

Additional Required Courses

- ENGL 4010 - Technical Writing in the Professions Credits: 3
  OR
- ENGL 4075 - Writing for Non-Profits Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Upon declaring this major, students must satisfactorily complete a mandatory security screen (background check).

All Human Development and Family Sciences majors are required to complete a 4-6 credit hour internship.

Human Nutrition and Food (B.S.) - Dietetics Concentration

Provides the required coursework to pursue an approved post-graduation supervised practice experience (dietetic internship) to become a Registered Dietitian Nutritionist (RDN).

Program Introduction

The UW Didactic Program in Nutrition and Dietetics (DPND) is nationally accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics. Entrance into the DPND is made only through an application process. Each prospective DPND student will initially enter the Human Nutrition and Food major. It is recommended that students apply to the DPND in the spring semester of their sophomore year. The academic requirements and supervised practice experience must be completed before the student is eligible for the Registration Examination for Dietitians administered by the Commission on Dietetic Registration (CDR), the credentialing agency for the Academy.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses - Before DPND Admission

Students must complete the following courses with a minimum grade point average of 3.0 prior to DPND application.

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3

- FCSC 1411 - Scientific Study of Food Lab Credits: 1
- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
  Also required:
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Required Courses - After DPND Admission

In addition to USP and upper division requirements, students must complete the following courses after admission to the DPND while maintaining an overall grade point average of 3.0. Failure to maintain a grade point average of 3.0 could result in program probation and/or suspension.

Grade of C or above required

- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 3150 - Intermediate Foods Credits: 2
- FCSC 3152 - Food Systems Production Credits: 3
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- FCSC 4150 - Experimental Foods Credits: 3
- FCSC 4200 - Professionalism in Dietetics Credits: 3
- FCSC 4210 - Therapeutic Nutrition I: Nutrition Assessment and Diagnosis Credits: 4
- FCSC 4220 - Therapeutic Nutrition II Credits: 4
- FCSC 4230 - Therapeutic Nutrition Counseling Credits: 2

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade of C or above required.

Complete one of the following

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3

Additional Required Courses

Some courses may require grades of C or above. Consult your advisor.

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
  OR
- CHEM 2420 - Organic Chemistry I Credits: 4
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- MGT 2100 - Management and Organizations Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Human Nutrition and Food, B.S.

Prepares students for careers in human nutrition and the food industry as well as entry into graduate or health professional school.

Students in the Human Nutrition and Food major may choose to apply to the Didactic Program in Nutrition and Dietetics.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3

- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Nutrition and Food Required Courses

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 1411 - Scientific Study of Food Lab Credits: 1
- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- FCSC 4150 - Experimental Foods Credits: 3

Human Nutrition and Food Elective

Grade of C or above required.

Complete one of the following:

- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 3150 - Intermediate Foods Credits: 2
- FCSC 3152 - Food Systems Production Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade of C or above required.

Complete one of the following:

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3

Additional Required Courses

Some courses may require grades of C or above. Consult your advisor.

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
  OR
- CHEM 2420 - Organic Chemistry I Credits: 4
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Minor

Apparel Design Minor

A minor in Apparel Design enables students to gain competency in areas expected of apparel designers; combining technical and creative skills with industry knowledge for the design and creation of fashionable and functional clothing.

Required Courses

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3

- FCSC 2175 - Fashion Illustration Credits: 3
- FCSC 2270 - Advanced Apparel Construction Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3174 - Flat Pattern Design Credits: 3
- FCSC 3175 - Apparel Design Through Draping Credits: 3

Plus one of the following

- FCSC 1180 - Applied Design Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3

Plus one of the following

- FCSC 4178 - Fiber Arts Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3

Minor Total: 27 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Human Development and Family Sciences Minor

Provides students with a foundation in the basic principles and knowledge of human development and family sciences across the lifespan that can enrich and complement their primary area of study.

Required Courses

- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3

Plus 12 credit hours from the following:

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3

- FCSC 4118 - Family Policy Credits: 3
- FCSC 4135 - Program Evaluation Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

Minor Total: 22 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Human Nutrition Minor

A minor in Human Nutrition and Food enhances degrees in kinesiology and health, food science, nursing, and related fields. Students learn how food choices influence health. *Does not prepare students to provide nutrition therapy or counseling*.

Required Courses

- FCSC 1141 - Principles of Nutrition Credits: 3
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Plus one of the following

** Course can be used to fulfill only one category.*

- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4 *
- MOLB 3610 - Principles of Biochemistry Credits: 4

Plus three of the following

** Course can be used to fulfill only one category.*

- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4 *
- FCSC 4147 - Nutrition and Weight Control Credits: 3

Minor Total: 23-25 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Interior Design Minor

A minor in Interior Design enables students with career interests in this field to gain experience in the competency areas expected of interior designers.

Required Courses

- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 3288 - Environmental Psychology and Inclusive Design Credits: 1
- FCSC 3171 - Introduction to Textile Science Credits: 3
- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3

Plus one of the following

- FCSC 3180 - Contract Design I Credits: 3
- FCSC 4188 - Contract Design II Credits: 3

Plus one of the following

- FCSC 1180 - Applied Design Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ARE 3600 - Architectural Design Studio III Credits: 3

Plus one of the following

- ARE 3030 - History of Architecture Credits: 3
- ART 2020 - Art History II Credits: 3

Minor Total: 21 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Additional Requirements

The Interior Design minor is sponsored jointly by the Departments of Family and Consumer Sciences and Civil and Architectural Engineering. Students who hope to use this minor to prepare for professional certification examination following graduation should consult the sponsoring departments to receive an advisor for the minor.

Graduate

Family and Consumer Sciences - Master of Science

The master's program in family and consumer sciences offers three specialized and very different areas of emphasis for a variety of pathways and careers.

General Requirements

All emphasis areas listed below require a minimum of 30 credit hours of coursework at the 4000/5000 level. Only nine credit hours of 4000-level courses are allowed in this master's program. The student may be required to complete more than the minimum credit hours to satisfy prerequisites or because the student's committee determines additional coursework is required for the student to reach their professional objective.

The student is responsible for meeting all deadlines, submitting all required forms, and for fulfilling all requirements for the degree.

Design, Merchandising and Textiles

This program offers the study of textiles, merchandising of textile and apparel products, various aspects of apparel design and product development including creative and functional design options, and various aspects of interior design.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (as approved by the student's graduate committee):

- FCSC 5181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 5182 - Environmental Sustainability in Design, Merchandising and Textiles Credits: 3
- AGEC 5650 - Communicating Research Credits: 3

AND:

8 credit hours from the following courses:

- FCSC 5171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 5172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 5173 - Textile Science Seminar Credits: 3
- FCSC 5176 - Historic Clothing Credits: 3
- FCSC 5178 - Fiber Arts Credits: 3
- FCSC 5179 - Historic Textiles Credits: 3
- FCSC 5188 - Contract Design II Credits: 3
- FCSC 5288 - Professional Practice and Advanced Interiors Studio Credits: 4
- FCSC 4160 - Merchandising Strategies and Technology Credits: 3
- FCSC 4185 - Product Development and Technology Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3

AND:

Student must complete the following (as approved by the student's graduate committee):

6 credit hours of supporting courses from arts, humanities, natural or social sciences
3 credit hours of supporting research courses
4 credit hours of FCSC 5960 - Thesis Research

Human Development and Family Sciences

This program is designed for professionals who are currently working in human services fields and would like to further their education. This is an entirely online degree program that allows students to progress at their own pace.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (as approved by the student's graduate committee):

- FCSC 5112 - Family Decision and Resource Management Credits: 3
- FCSC 5117 - Understanding Community Leadership Credits: 3
- FCSC 5118 - Family Policy Credits: 3
- FCSC 5122 - Developmental Contexts Across the Lifespan Credits: 3
- FCSC 5135 - Program Evaluation Credits: 3
- FCSC 5138 - Family Stress/Coping Credits: 3
- EDRE 5530 - Introduction To Research Credits: 3 **OR** EDRE 5550 - Action Research Credits: 3
  Student must complete the following (as approved by the student's graduate committee):
  8 credit hours of supporting courses
  4 credit hours of FCSC 5960 - Thesis Research

Human Nutrition and Food

This program increases the understanding of food and nutritional science and how to apply that knowledge to disease prevention and enhancement of human potential.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (approved by graduate committee):

- 18 credit hours of courses from food and nutritional sciences, biological, natural and social sciences 6 credit hours of supporting research courses
- 2 credit hours of graduate research seminars
- 4 credit hours of FCSC 5960 - Thesis Research

Application Requirements

Admission to our graduate program and selection for department-funded assistantships is highly competitive. Faculty in each program area will review the applications for their program area and priority consideration will be given to applicants who meet or exceed admission requirements and possess research interests that parallel those of the faculty. Applicants will also be evaluated based on their fit with the identified faculty member and whether the identified faculty member is currently accepting graduate students. Faculty members typically select promising students to interview before final decisions are made. We do not offer conditional admission.

Application requirements can be found here: https://www.uwyo.edu/fcs/graduate-programs/index.html

Food Science and Human Nutrition Interdisciplinary Master of Science

An interdisciplinary program where students gain expertise in theory as well as combined research in the areas of human nutrition and metabolism, food product development, community nutrition, food microbiology, meat science and food chemistry.

General Information

Earn your master's degree in food science and human nutrition through the Department of Animal Science or Family and Consumer Sciences!

In this highly competitive graduate degree program, students gain direct experience with data collection, analysis, writing and publication through laboratory and classroom learning experiences. Program faculty are actively conducting research in the areas of eating behaviors, indigenous/traditional diets, micronutrient needs and deficiencies, food product development, sensory characteristics of food products, health and physical performance of active individuals, nutrition and disease, brain-reward pathway, microbial diagnostics, rumen microbiome, nitrogen/protein metabolism, lipid analysis and alternative feed/forages.

General Requirements

A minimum of 30 credit hours of coursework at the 4000/5000 level is required; only nine credit hours of 4000-level courses are allowed in this master's program. A student may be required to complete more than the minimum credit hours to satisfy prerequisites or because the student's committee determines additional coursework is required for the student to reach their professional objective.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (approved by graduate committee):

- 20 credit hours of courses from food and nutritional sciences, biological, natural and social sciences
- 6 credit hours of supporting research courses
- 4 credit hours of FCSC 5960 - Thesis Research

The student is responsible for meeting all deadlines, submitting all required forms, and for fulfilling all requirements for the degree.

Recommended Prerequisites

The following are recommended for students applying to the program:

- One semester of organic chemistry
- Human or animal nutrition, anatomy and physiology
- Introductory statistics

Application Requirements

Admission to our graduate program and selection for department-funded assistantships is highly competitive. Faculty in each program area will review the applications for their program area and priority consideration will be given to applicants who meet or exceed admission requirements and possess research interests that parallel those of the faculty. Applicants will also be evaluated based on their fit with the identified faculty member and whether the identified faculty member is currently accepting graduate students. Faculty members typically select promising students to interview before final decisions are made. We do not offer conditional admission.

Application requirements can be found here: https://www.uwyo.edu/fcs/graduate-programs/index.html

Department of Molecular Biology

203 Animal Science/Molecular Biology Bldg.

(307) 766-3300

Website: www.uwyo.edu/MolecBio/

Department Chair: Jesse "Jay" Gatlin

Modern biology is based on a fundamental understanding of molecular processes essential in living organisms. Recent advances in molecular biology have led to an explosion of knowledge about gene expression and the role gene products play in cell function. Undergraduate programs in molecular biology offer learning opportunities at the forefront of modern biology.

The molecular biology degree programs are designed to prepare students for the future by combining a foundation in basic sciences and humanities with a broad selection of courses in molecular biology, biochemistry, genetics and microbiology. Advanced undergraduates attend an outside speaker's program that includes some of the world's best-known scientists. Modern, well-equipped teaching and research laboratories contribute significantly to the educational experience of a student. All junior- and senior-level undergraduates are encouraged to participate in research projects with individual faculty members. Involvement in an active research program provides the student with an additional dimension of learning beyond what is assimilated in courses. A student learns to plan experiments, solve technical problems and experience scientific advances. An undergraduate research project also promotes close interaction between the undergraduate and graduate students, postdoctoral researchers, staff and faculty.

Many molecular biology majors continue their education beyond the bachelor's level by going to graduate school or to medical, dental or veterinary school. Some students choose to use their education to gain employment in biotechnology, clinical or basic research laboratories. Other career choices include teaching, medical technology, law and business. In addition, the Department of Molecular Biology offers the Ph.D., M.S. and M.A. degrees for students who wish to do graduate work in molecular biology, in preparation for careers in academia, the biotechnology and biopharmaceutical industry, medicine, or other professions.

Professors

DAVID FAY, B.S. Tufts University 1988; Ph.D. Yale University 1995; Professor of Molecular Biology 2010, 2001.

JESSE "JAY" C. GATLIN, B.S. University of Colorado-Boulder 1995; Ph.D. University of Colorado-Aurora 2005; Professor of Molecular Biology 2021, 2010.

MARK GOMELSKY, B.S. Moscow Institute of Chemical Technology 1986; M.S. 1988; Ph.D. Institute of Genetics and Selection of Industrial Microorganisms 1991; Professor of Molecular Biology 2011, 1999.

DONALD L. JARVIS, B.S. Idaho State University 1978; M.S. 1980; Ph.D. Baylor College of Medicine 1986; Professor of Molecular Biology 2000, 1998.

DANIEL L. LEVY, B.S. California Institute of Technology 2000; Ph.D. University of California San Francisco 2006; Professor of Molecular Biology 2021, 2011.

DANIEL WALL, B.A. Sonoma State University 1988; Ph.D. University of Utah 1994; Professor of Molecular Biology 2018, 2007.

CYNTHIA WEINIG, B.A. Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

Associate Professors

GRANT BOWMAN, B.S. University of Rochester 1997; Ph.D. University of Chicago 2004; Associate Professor of Molecular Biology 2019, 2012.

JASON GIGLEY, B.S. University of New Hampshire 1994; Ph.D. Dartmouth Medical School 2007; Associate Professor of Molecular Biology 2019, 2012.

PAMELA J. LANGER, B.S. Indiana University-Bloomington 1973; Ph.D. Massachusetts Institute of Technology 1980; Associate Professor of Molecular Biology 1994, 1987.

Assistant Professors

THOMAS BOOTHBY, B.S. Tulane University 2008; Ph.D. University of Maryland 2013; Assistant Professor of Molecular Biology, 2019.

EUNSOOK PARK, M.S. Seoul National University 2001; Ph.D. University of Tennessee, Knoxville 2010; Assistant Professor of Molecular Biology 2019.

TODD SCHOBORG, B.S. Murray State University 2008; Ph.D. University of Tennessee 2013; Assistant Professor of Molecular Biology, 2019.

Associate Lecturer

BRIDGET DECKER, B.S. Colorado State University 1998; Ph.D. Dartmouth College 2006; Associate Lecturer Molecular Biology, 2021, 2015.

Assistant Lecturer

KASSANDRA WILLINGHAM, B.S. University of Wyoming 2010, B.S. University of Wyoming-Casper 2017; M.S. Colorado State University 2016; Assistant Lecturer Molecular Biology 2020.

Instructional Teaching Laboratory Coordinator

HOLLY STEINKRAUS, B.A. Ripon College 1987; Ph.D. University of Wyoming 1993; Instructional Teaching Laboratory Coordinator, 2015.

Adjunct Professor

ANNE W. SYLVESTER, B.S. University of Washington 1980; M.S. 1982; Ph.D. 1987; Professor of Molecular Biology 2010, 2006.

Professors Emeritus

Dale Isaak, Randy Lewis, Nancy Petersen, Don Roth, Mark M. Stayton, Peter E. Thorsness, Jordanka Zlatanova

Major

Molecular Biology, B.S.

The Molecular Biology B.S. degree includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, cell biology, electives and research opportunities, in preparation for postgraduate studies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

For the B.S. in Molecular Biology, a student, with assistance from their academic adviser, will design a program of study with General Science and Molecular Biology courses, including biochemistry, microbiology, genetics, cell biology and molecular laboratory methods. Additional courses may be selected to enhance competency in key Emphasis Areas such as Cell Biology and Molecular Genetics, Microbiology, or Preprofessional Health Sciences. Undergraduate research opportunities develop skillsets for graduate school, biotechnology employment or medical research.

Flexibility in course selection permits students to fulfill various requirements for postgraduate and professional schools. The molecular biology program is designed to prepare students for careers in molecular biological research, teaching, and medical or other health professional schools. Students have also progressed from a B.S. in Molecular Biology to careers in business, law, public health policy and genetic counseling.

MOLB Program Learning Outcomes (PLOs)

Students will acquire fundamental understanding of molecular biological processes, learn laboratory and analytical skills, and develop competency in oral and written communication of scientific results and reviews. The MOLB Program Learning Outcomes (PLOs) are listed in categories, followed by the Bloom's taxonomy level targeted by each PLO.

Fundamental principles in Molecular Biology

1. Apply foundational concepts in molecular and cellular biology, biochemistry, microbiology and genetics in answering questions in formative activities or summative assessments. (Bloom 3)
2. Use core molecular biological principles in comprehension of primary research articles and reviews. (Bloom 3, 6)
3. Integrate molecular biological concepts with principles in related fields such as developmental biology, molecular genetics, plant biology, immunology, endocrinology, physiology, clinical biochemistry and genetic disorders in developing an interdisciplinary understanding of molecular mechanisms. (Bloom 6)

Laboratory, Experimental and Research Skills

4. Describe and use methods for safe practices in performing laboratory methods, and accurately record and summarize experimental results in an organized manner. (Bloom 1, 2, 3)
5. Create hypotheses and develop experimental designs to test them. (Bloom 6)
6. Demonstrate the use of basic scientific and laboratory skills in modern microbiology and molecular biology and construct alternate approaches to solve experimental problems. (Bloom 3, 5)

Analytical, Computational and Interpretive skills

7. Employ mathematical, statistical, and computational tools including online resources, in analyses of experimental data. (Bloom 4)
8. Critically evaluate data from primary literature resources. (Bloom 6)
9. Use evidence-based scientific reasoning skills to develop and express interpretations consistent with available data. (Bloom 3)

Communication, Diversity and Translation of Scientific Research

10. Employ collaborative skills for working on problems and presentations in groups, with a goal of being inclusive for all learners, who may be diverse in academic background, physical abilities, geographical origin, or practical experiences. (Bloom 3)
11. Demonstrate effective dissemination of ideas and experimental results to a broader community using diverse oral, written and digital formats appropriate for different target audiences. (Bloom 3)
12. Evaluate effects of, and ethical issues related to, molecular genetic advances on society. (Bloom 5)

Course Requirements

General Science Requirement: 36 Hours

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

MOLB Core Requirement: 31-32 Hours

- MOLB 1050 - Genetic Engineering and Synthetic Biology Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- LIFE 3050 - Genetics Credits: 4

- MOLB 3320 - Molecular Biological Methods Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
  OR
- CHEM 4400 - Biological Chemistry Credits: 3

- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4053 - Communications in Molecular Biology Credits: 3
- MOLB 4440 - Microbial Genetics Credits: 3
  OR
- MOLB 4450 - Cell and Developmental Genetics Credits: 3

- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4051 - Departmental Seminar Credits: 1
  OR
- MOLB 4052 - Summer Seminar Credits: 1

MOLB Elective Requirement: 6 Hours

Courses from the following list that were not used to fulfill the MOLB Core Requirement may be applied to the MOLB Elective Requirement; a maximum of 3 credits of MOLB 4010 may be counted toward the MOLB Elective Requirement.

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4050 - Student Seminar: Topics in ___ Credits: 1
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Molecular Biology Emphasis Areas

After discussing individual interests with a molecular biology adviser, a student should enroll in additional courses that will enhance preparation for a chosen career objective. Listed below are recommended courses that are not required but will further develop a student's skills and understanding in three Emphasis Areas.

Cell Biology and Molecular Genetics

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4

Microbiology

- MICR 2220 - Pathogenic Microbiology Credits: 3
- MICR 4130 - Mammalian Pathobiology Credits: 3
- MICR 4220 - Molecular Mechanisms of Bacterial Pathogenesis Credits: 3
- MICR 4360 - Medical Entomology and Parasitology Credits: 4
- MICR 4710 - Medical Virology Credits: 3
- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Preprofessional Health Sciences

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- MICR 2220 - Pathogenic Microbiology Credits: 3
- MICR 4710 - Medical Virology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PSYC 1000 - General Psychology Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3
- PSYC 2340 - Psychopathology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4

Minor

Molecular Biology Minor

A Molecular Biology minor includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, electives and research opportunities, preparing students for postgraduate studies.

Additional Information

Students wishing to minor in molecular biology should discuss their plans with an adviser. Formal declaration of molecular biology as a minor requires: 1) submission of a form approved by the Department of Molecular Biology and the College of Agriculture, Life Sciences and Natural Resources Dean's Office and 2) appointment of an adviser for the Department of Molecular Biology.

Although there is no specific number of credits required, to receive a minor in molecular biology, a student must complete courses listed in the following areas that total approximately 45 credits:

Minimum Requirements: 43 Hours

General Science Requirement: 20-22 Hours

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
  OR
- CHEM 2420 - Organic Chemistry I Credits: 4

- MATH 2200 - Calculus I Credits: 4
  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5
  OR
- MATH 1400 - College Algebra Credits: 3
  AND
- MATH 1405 - Trigonometry Credits: 3

MOLB Core and Elective Requirement: 23-25 Hours

- MOLB 2021 - General Microbiology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- MOLB 3320 - Molecular Biological Methods Credits: 4
  OR 3 credits of
- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3

- MOLB 3610 - Principles of Biochemistry Credits: 4
  OR
- CHEM 4400 - Biological Chemistry Credits: 3

- **MOLB Elective Requirement:** 6 credits of 4000-level MOLB courses, excluding MOLB 4010, MOLB 4050, MOLB 4051, MOLB 4052, MOLB 4850

Graduate

Molecular Biology, M.A.

The Molecular Biology M.A. program includes advanced courses in molecular sciences with a focus on a research project, preparing students for a Ph.D. program, biotechnology research or other professional postgraduate program.

Additional Information

An applicant for the M.A. degree in Molecular Biology is generally expected to have an equivalent of a B.S. degree in a field related to Molecular Biology. Prior to admission to the program, an applicant needs to contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can apply to the Molecular Biology graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

The pursuit of an M.A. degree in Molecular Biology is also suitable for students interested in obtaining a master's degree that does not necessarily include laboratory work. Students who intend to pursue education in medical, dental, veterinary or law schools may choose to pursue an M.A. in Molecular Biology before continuing their education. An appropriate research project is selected in consultation with the M.A. degree candidate and their graduate adviser. Student performance is monitored by a thesis committee that will evaluate a student's written thesis, public seminar, and oral thesis defense. A student pursuing an M.A. degree should not have expectations of financial support. Students pursing the M.A. degree in Molecular Biology usually complete their program in two academic semesters plus two summer semesters.

Requirements for M.A. degree in Molecular Biology

An M.A. degree student, in consultation with their graduate committee, must design a Program of Study that includes a minimum of 30 hours of graduate credit. Specific requirements for the M.A. Program in Molecular Biology are listed below.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
    - This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate, or transfer credits for an equivalent biochemistry course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of a 5000-level MOLB course from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680.
- 4 credits of the seminar presentation course MOLB5050 (2 credits of MOLB5050 must be taken the first semester a student enrolls in the graduate program).
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- 4 credits of Thesis Research MOLB5960.
- Other credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Molecular Biology, M.S.

The Molecular Biology M.S. program provides training with advanced courses and laboratory research in molecular sciences, with the goal of providing a foundation for a Ph.D. program, employment or other postgrad program.

Additional Information

The M.S. program in Molecular Biology is a research-intensive degree. An applicant is generally expected to have an equivalent of a B.S. degree in a field related to Molecular Biology. Prior to admission to the program, an applicant must contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can start an application to the Molecular Biology graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

An M.S. candidate will conduct a research project and present their results at departmental seminars and at scientific meetings. Student performance is monitored by a thesis committee that evaluates a student's research proposal, seminar presentations, written thesis, final public seminar, and final oral defense of the thesis. In consultation with the faculty research adviser, a student may elect to serve as a teaching assistant. Graduate assistantships for M.S. degree students are at the discretion of their graduate adviser. Students pursuing the M.S. degree in Molecular Biology usually complete their program in two to three years.

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

Requirements for M.S. degree in Molecular Biology

An M.S. degree student, in consultation with their graduate committee, must design a Program of Study that includes a minimum of 30 hours of graduate credit, including 26 credits of formal coursework and 4 credits of thesis research MOLB5960. Specific requirements for the M.S. degree in Molecular Biology are listed below.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
    - This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate, or transfer credits for an equivalent biochemistry course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of a 5000-level MOLB course from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680.
- 4 credits of MOLB5050 Advanced Student Seminar (2 credits of MOLB5050 must be taken the first semester a student enrolls in the graduate program).
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- 4 credits of Thesis Research MOLB5960.
- Other credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Molecular Biology, Ph.D.

The Molecular Biology Ph.D. program provides training with advanced courses and conducting an extensive laboratory research project in molecular and cellular biology or microbiological research areas.

Additional Information

The Ph.D. in Molecular Biology is a research-intensive degree. Prior to admission to the program, an applicant must contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can start an application to the Molecular Biology Graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

An application to the Ph.D. program should include a curriculum vitae (CV), a 2-page statement of research interests and career plans, contact information for three references, transcripts from previous institutions, and GRE scores. Those students with an M.S. degree may be excluded from the GRE score requirement. Following admission, a student will conduct a guided research project in the laboratory into which they have been accepted. The faculty research adviser is responsible for financial support of the student. A research project is expected to result in publications in peer-reviewed journals as well as presentations at departmental seminars and scientific meetings.

Throughout the degree program, a graduate student is guided and evaluated by their research adviser and graduate committee. A student must develop a Program of Study approved by the student's graduate committee. Student performance is monitored by a dissertation committee that evaluates a student's seminar presentations, research proposal, preliminary exam, written dissertation, final public seminar, and final oral defense of the dissertation. In consultation with the faculty research adviser, a student may elect to serve as a teaching assistant. Students pursing the Ph.D. degree in Molecular Biology usually complete their program in approximately five years.

Requirements for Ph.D. degree in Molecular Biology

A Program of Study for the Ph.D. in Molecular Biology must include a minimum of 72 semester hours of credit at the 4000 level or above from UW or equivalent levels from another approved university. This 72-hour requirement may include graduate credits earned while working toward the master's degree in the same area, but at least 42 hours (of the 72) must be earned in formal coursework, including the specific requirements for the program detailed below. Additional credits toward the 72-hour requirement may include additional formal course credits, Dissertation Research credits (MOLB5980), or MOLB5960 credits or Internship credits (MOLB5990).

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

Specific requirements for the Ph.D. degree in Molecular Biology are listed below. The Program of Study is determined in consultation with the student's graduate committee and must be on file in the Office of the Registrar before the preliminary examination can be scheduled.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
    - This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate or as part of a master's program, or transfer credits for an equivalent course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of 5000-level MOLB courses from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680, MOLB5700.
- 4 credits of MOLB5050 Advanced Student Seminar; 2 credits of MOLB 5050 must be taken the first semester a student enrolls in the graduate program.
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- MOLB5980 Dissertation Research (number of credits to be determined in consultation with the student's graduate committee).
- Other course credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Department of Plant Sciences

Room 50 Agriculture Building
PHONE: (307) 766-3103
Website: www.uwyo.edu/plantsciences
Department Head: Andrew Kniss

Professors:

JIM HEITHOLT, B.S. Western Illinois University 1978; M.S. University of Missouri 1980; Ph.D. University of Kentucky 1984; Professor of Crop Physiology 2014.

ANDREW R. KNISS, B.S. University of Wyoming 2001; M.S. University of Nebraska-Lincoln 2003; Ph.D. University of Wyoming 2006; Professor of Weed Ecology and Management in Cropping Systems 2018, 2007.

BRIAN A. MEALOR, B.S. North Georgia College and State University 1999; M.S. University of Wyoming 2003; Ph.D. 2006; Director, Sheridan Research and Extension Center; Professor of Rangeland Restoration and Weed Science 2023, 2009.

URSZULA NORTON, B.S. Warsaw Agricultural University 1988; M.S. 1990; M.S. Iowa State University 1995; Ph.D. University of Montana 2000; Professor of Agroecology and Soil Science 2022, 2009.

Associate Professors:

RANDA JABBOUR, B.S. Rochester Institute of Technology 2003; Ph.D. Pennsylvania State University 2009; Associate Professor of Agroecology 2019, 2013.

Assistant Professors:

CLINT BEIERMANN, B.S. University of Wyoming 2012; M.S. 2017; Ph.D. University of Nebraska-Lincoln 2020; Assistant Professor, Forage Crop Production and Weed Management 2023.

KELSEY BROCK, B.S. University of Alberta 2010; M.S. 2014; Ph.D. University of Hawaiʻi - Mānoa 2021; Assistant Professor, Extension Weed Specialist (Invasive Plants) 2022.

JI-JHONG "JJ" CHEN, B.S. National Chung Hsing University, Taiwan 2018; M.S. Utah State University 2020; Ph.D. 2023; Assistant Professor, Horticultural Crop Physiologist 2023.

DONNA HARRIS, B.S. University of Georgia 1998; M.S. 2001; Ph.D. 2014; Assistant Professor of Plant Breeding and Genetics 2020.

Academic Professionals:

JENNA MEEKS, B.S. Colorado State University 2010; M.S. University of Wyoming 2016; Assistant Research Scientist 2021.

ELIZABETH MOORE, B.S. West Texas A&M University 2001; M.S. 2004; Assistant Lecturer of Horticulture and Plant Production 2021.

Emeritus/Retired Faculty:

Rollin H. Abernethy, James Cook, Ron Delaney, Mark Ferrell, Alan Gray, Robin W. Groose, Bernie Kolp, James M. Krall, Karen Panter, William Stump, Thomas D. Whitson, David Wilson

Plant Production and Protection Major (B.S.)

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection (Plant Production and Protection, B.S.), with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in, and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management specialist, ecologist, research associate or technician, agronomist, biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the QuickStart Program section below or online at https://www.uwyo.edu/plantsciences/graduate-studies/quickstart-program.html.

Agronomy Minor (Agronomy Minor)

Minimum Requirements: 19 Hours

Agroecology Minor (Agroecology Minor)

Minimum Requirements: 20 Hours

Horticulture Minor (Horticulture Minor)

Minimum Requirements: 20 Hours

Plant Protection Minor (Plant Protection Minor)

Minimum Requirements: 19 Hours

Plant Production and Protection/Environment and Natural Resources Program, B.S.

(ENR and Plant Sciences)

Students interested in the environment and natural resources may choose to pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources. See the ENR Information and Advising Guide for details.

Graduate Study (M.S. and Ph.D.)

The Department of Plant Sciences offers curricula leading to the master of science and doctor of philosophy degrees in Plant Sciences. Courses within the department are offered in crop science, horticulture, plant pathology, weed science, and agronomy. Interdisciplinary coursework and research projects are common for Plant Sciences graduate students.

Program Specific Admission Requirements

In addition to university minimum requirements, a majority of the department faculty and department head must approve the admission. To be considered for admission, candidates must establish a faculty member willing to serve as advisor.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): a statement of purpose that describes your professional objectives and scientific interests, a current Curriculum Vitae, current academic transcripts, proof of English proficiency (if English is not your primary language) - TOEFL, IELTS, or Duolingo tests are currently accepted, and three letters of recommendation (to be submitted directly by references through the online application). At least two of the letters must be from current or previous university instructors or professional supervisors. Our regular deadlines for fall and spring semester admission are February 15 and October 15, respectively, although we will accept applications any time during the year.

Applicants whose undergraduate cumulative GPA is below 3.0 may be considered via the Professional Experience Track Admissions process if they have had at least two years of relevant professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions section under the "Admission to the University" section of this Catalog.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information, or visit UW's Graduate Education website at http://www.uwyo.edu/uwgrad/.

Program Specific Graduate Assistantship Information

M.S. assistantships include a stipend, plus tuition and fee waiver, and health insurance. Ph.D. assistantships include a stipend, plus tuition and fee waiver, and health insurance. These assistantships are for the 9-month academic year, but summer support is typically available.

Program Specific Degree Requirements

Master of Science in Plant Sciences

Plan A (thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Doctoral Program

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

QuickStart Program (Plant Sciences B.S/M.S.)

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit hour load. Up to six credit hours may be counted toward both the B.S. and M.S. degree programs.

Major

Plant Production and Protection, B.S.

The Plant Production and Protection degree prepares students for careers in agriculture, natural resources, environmental and life sciences, and advanced graduate studies in the plant sciences.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Information

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection, with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in, and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management specialist, ecologist, research associate or technician, agronomist, biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the Plant Sciences Graduate Study section or online at http://www.uwyo.edu/plantsciences/.

Course Requirements

Core Requirements (required of ALL degree recipients): 50 Hours

- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- MATH 1400 - College Algebra Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

Choose one from ANSC 1010, ENTO 1000, or ENTO 1001 (ENTO 1001 preferred if available):

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

- SOIL 2010 - Introduction to Soil Science Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

Choose one from STAT 2050 or LIFE 2100:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4

- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- LIFE 3050 - Genetics Credits: 4

Choose one from PLNT 3000, SOIL 4140, or SOIL 4160:

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

- PLNT 4990 - Plant Sciences Capstone Credits: 3

Practical Experience (must take 6 credit hours from the following): 6 Hours

- PLNT 4820 - Plant Sciences Seminar Credits: 1
- PLNT 4920 - Research Apprenticeship Credits: 1-2
- PLNT 4930 - Internship in Plant Sciences Credits: 1-3
- PLNT 4960 - Plant Sciences Field Studies Credits: 2
- PLNT 4900 - Undergraduate Teaching Practicum Credits: 1-2
- AGRI 4520 - Field Practicum: Extension Work Credits: 1-4

Plant Sciences Electives: 15 Hours

(Select 15 credit hours from PLNT courses, at least 12 of which are upper division)

Supporting Electives: 9 Hours

Select 9 hours of upper division courses from those with the following course prefixes:

- AGEC (Agricultural Economics)
- ANSC (Animal Science)
- BIOL (Biology)
- BOT (Botany)
- ENR (Environment and Natural Resources)
- ENTO (Entomology)
- FDSC (Food Science)
- GIST (Geospatial Information Science and Technology)
- LIFE (Life Sciences)
- MICR (Microbiology)
- MOLB (Molecular Biology)
- REWM (Rangeland Ecology and Watershed Management)
- SOIL (Soil Science)

Free Electives: 25 Hours

Remaining credit hours fulfilled by USP requirements: 15 Hours

Optional Concentrations

Although not required, students may choose to specialize in any of the four optional concentrations below as part of their B.S. in Plant Production and Protection. In order for the concentration to be official, students must "opt in" and add the desired concentration to their degree evaluation.

Agronomy Concentration: 24 Hours

The Agronomy concentration focuses on the intricacies of agronomic crop production along with pest management, genetics, soil science, and other related topics. This is a broad area of study that can be tailored to the student's particular interests. Careers in production, consulting, and pest management abound in the public and private sectors of agriculture. Students learn the ultimate goal of promoting more efficient and sustainable agronomic crop production practices. Skills learned include written and oral communication; sciences such as ecology, chemistry, and genetics; and practical applications such as computer technologies, geographic information systems, soil and water analyses, plant health diagnostics, and general best management practices.

Required: 16 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

- PLNT 2200 - Field Crop Production Credits: 3
  OR
- PLNT 4220 - Crop Yield Physiology Credits: 3

At least 8 additional credit hours from the following: 8 Hours

- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- PLNT 4180 - Greenhouse Crop Production Credits: 4
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4140 - Soil Microbiology Credits: 4

Horticulture Concentration: 21 Hours

Students in the Horticulture concentration learn about the various horticultural commodities and growing operations. Choose from classes including greenhouse crop production, plant propagation, seed technology, organic food production, plant breeding, and allied subjects such as irrigation technology and pest management including plant pathology and weed science. Students may be surprised at the number of career opportunities available in horticulture! These include vegetable and small fruit production, greenhouse management, controlled environment crop production, landscape plants and management, new variety breeding and production, and urban tree care, among many others.

Required: 15 Hours

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3

- PLNT 4180 - Greenhouse Crop Production Credits: 4
  OR
- PLNT 4200 - Greenhouse Design and Management Credits: 3

At least 6 additional credit hours from the following: 6 Hours

- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1
- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3

Integrated Pest Management Concentration: 25 Hours

IPM as it is commonly known, melds all aspects of plant pest management under one umbrella. It uses the sciences of plant pathology, entomology, and weed science under the broader plant diagnostics field. The IPM concentration emphasizes understanding pest biology and ecology of the ecosystem as the foundation for making pest management decisions that minimize negative impacts on health and the environment. Students in the IPM concentration will find careers in private consulting, field diagnostics, research and demonstration, and product sales, as well as public sector work in invasive species management.

Required: 16 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4400 - Invasive Plant Ecology Credits: 3

  Choose at least one of the following:
- BOT 3600 - Plant Diversity and Systematics Credits: 4
- BOT 4680 - Taxonomy of Vascular Plants Credits: 4
- ENTO 4684 - Classification of Insects Credits: 4
- REWM 4300 - Grass Taxonomy Credits: 3

At least 9 additional credit hours from the following: 9 Hours

- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3

- ENTO 4884 - Insect Behavior Credits: 3
- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3

Agroecology & Evolution Concentration: 21 Hours

Students in this concentration are trained in the ways plants and associated organisms evolve in response to human-impacted environments, and how agroecosystems may change as a result of plant management. Courses include genetics, plant breeding, agroecology, and crop production along with ecology, soil sciences, and others. This concentration provides excellent preparation for graduate school in plant sciences, and also prepares students for careers in conservation, sustainable agriculture, and crop production.

Required: 13 Hours

- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4400 - Invasive Plant Ecology Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

At least 8 additional credit hours from the following: 8 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4520 - Plant Breeding Credits: 3
- BOT 3100 - Plants and Civilization Credits: 3
- BOT 3600 - Plant Diversity and Systematics Credits: 4
- BOT 4700 - Vegetation Ecology Credits: 4
- ENTO 4300 - Insect Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

Plant Production and Protection/Environment and Natural Resources Program, B.S.

Students interested in the environment and natural resources can pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Information

See the ENR Information and Advising Guide for details.

Minor

Agroecology Minor

The Agroecology minor is ideal for students interested in how plant production systems interact with the surrounding ecosystem. This minor complements many majors related to land management and ecology.

Minimum Requirements: 20 Hours

Required: 11 Hours

- PLNT 1000 - Agroecology Credits: 4

  Choose two from PLNT 3030, LIFE 2023, or SOIL 2010:
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4

9 additional credit hours from the following: 9 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4400 - Invasive Plant Ecology Credits: 3
- BOT 3100 - Plants and Civilization Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

Agronomy Minor

Agronomy minor students train for careers in crop production and management, consulting, sales, and other areas of modern agriculture. Courses include crop & soil management; weed, insect, and disease management; and others.

Minimum Requirements: 19 Hours

Required: 11 Hours

- PLNT 1000 - Agroecology Credits: 4
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4

8 additional credit hours from the following: 8 Hours

- PLNT 2200 - Field Crop Production Credits: 3
- PLNT 3000 - Irrigated Agriculture Credits: 3

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4220 - Crop Yield Physiology Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3
- PLNT 4700 - Forage Crop Science Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

Horticulture Minor

Students in the horticulture minor learn basic horticultural practices, plant propagation, organic food production, and production of various horticultural commodities. Students who want to get their hands dirty are welcome.

Minimum Requirements: 20 Hours

Required: 8 Hours

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1

  Choose one from PLNT 1000 or LIFE 1010:
- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General Biology Credits: 4

12 additional credit hours from the following: 12 Hours

- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4180 - Greenhouse Crop Production Credits: 4
- PLNT 4200 - Greenhouse Design and Management Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3

Plant Protection Minor

A combination of weed science, plant pathology, and entomology, the Plant Protection minor provides training for many careers in invasive species management, plant diagnostics, horticulture, and agronomy, among others.

Minimum Requirements: 19 Hours

Required: 19 Hours

- PLNT 1000 - Agroecology Credits: 4
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3

Choose one from ENTO 1000 or ENTO 1001 (ENTO 1001 preferred if available):

- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

Choose one from PLNT 4070 or PLNT 4400:

- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4400 - Invasive Plant Ecology Credits: 3

Choose one from the following:

- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3

Graduate

Plant Sciences, M.S.

The Plant Sciences M.S. emphasizes management of agronomic, horticultural, and forage crops; plant breeding; and invasive species management. Students train for careers in academia and the public and private sectors.

Plan A (Thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Plant Sciences, Ph.D.

A Ph.D. in Plant Sciences is a terminal degree focusing on research in plant production, protection, and management. The scientific training prepares students for careers in academia and the public and private sectors.

Program Information

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

QuickStart Program

Plant Sciences, B.S./M.S. QuickStart

This program enables accepted students to work simultaneously toward both a B.S. in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and an M.S. in Plant Sciences.

Program Information

The combined Plant Sciences B.S./M.S. QuickStart program enables highly-qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit-hour load. As many as 6 credit hours of undergraduate coursework at the 5000 level (or 4000 level for courses in which no 5000-level course is available) may be counted toward both the B.S. and M.S. degree programs. Additionally, students retain the existing right to reserve up to 6 hours of graduate credit that may be taken during their undergraduate degree program. These 6 reserved credits will NOT count toward both the B.S. and M.S. degrees, but only toward the M.S. degree.

Admission to the program

Minimum requirements for admission to the accelerated program are:

1. completion of sophomore year, 60 credit hours;

2. a minimum overall GPA of 3.0;

3. a minimum GPA of 3.0 in PLNT, RNEW, and REWM courses;

4. a minimum of three letters of recommendation (at least two must be from faculty at UW);

5. a DPS fculty member willing to serve as M.S. advisor; and

6. a research proposal submitted to, and approved by, the student's M.S. advisor and at least one other Plant Sciences faculty member as a presumptive graduate committee member.

Transfer students must have also completed at least 15 credit hours of coursework at UW to be eligible for admission to this program.

If interested in this program, please visit our website at http://www.uwyo.edu/plantsciences/ for further information on additional requirements.

Department of Veterinary Sciences

Department of Veterinary Sciences and the Wyoming State Veterinary Laboratory

(307) 766-9925
FAX: (307) 721-2051
Web site: www.uwyo.edu/vetsci
email: vetscience@uwyo.edu
Department Head: Jonathan Fox

Faculty within the Department of Veterinary Sciences are engaged in teaching, research, and operation of the Wyoming State Veterinary Laboratory (WSVL). Instructional activities contribute to the ANVS and microbiology undergraduate majors. Graduate students within the department are enrolled in the ANVS or MCLS programs. There are opportunities for undergraduate students to obtain experience in research and/or veterinary diagnostic medicine. Faculty research interests span infectious diseases of companion animals, livestock, wildlife, as well as diseases transmissible to humans.

Professors:

JONATHAN H. FOX, B.Sc., B.V.Sc. University of Liverpool, UK 1993; Ph.D. Virginia Tech 2002; Associate Professor UW 2008; Professor UW 2016.

DAVID W. PASCUAL, B.S. University of Florida 1980; M.S. and Ph.D. 1985 and 1987; Professor of Immunology, Montana State University 2005; Professor of Immunology, University of Florida 2012; Wyoming Excellence Chair in Brucellosis UW 2024.

Associate Professors:

BERIT BANGOURA, D.V.M. Leipzig University 2003; Ph.D. 2008; Ph.D. 2015; Diplomate EVPC 2014; Assistant and Associate Professor UW 2017 and 2023 respectively.

MARIA FORZÁN, D.V.M. Universidad Nacional Autónoma de México 1997; M.S. and Ph.D. Atlantic Veterinary College 2000 and 2016; Assistant Professor Cornell University 2017; Associate Professor Long Island University 2019; Associate Professor UW 2023

RAPHAËL V. VANDERSTICHEL, D.V.M and Ph.D. Atlantic Veterinary College 2004 and 2011; Research Scientist and Assistant Professor, Atlantic Veterinary College 2014 and 2016; Associate Professor Long Island University 2019; Associate Professor UW 2024.

Assistant Professors:

ELIZABETH CASE, B.S. Oklahoma State University 2002; Ph.D. University of California-Irvine 2010; Assistant Professor UW 2020.

Clinical Assistant Professor:

JACQUELINE P. KURZ, B.S. Cornell University 2006; B.V.M.&S. Royal (Dick) School of Veterinary Studies, University of Edinburg, UK 2010; Ph.D. Utah State University 2018; Clinical Assistant Professor UW 2020.

LANI R. BOWER, B.S. Northeastern University 2003; M.S. and D.V.M. Colorado State University, 2019 and 2014; Clinical Assistant Professor UW 2023.

Instructional Professor:

AMY RHOAD, B.S. Molecular Biology/Environmental and Natural Resources. University of Wyoming. May 2014 B.S. Instructional Professor UW 2022. Microbiology. University of Wyoming. May 2014; Ph.D. Animal and Veterinary Sciences. Department of Veterinary Sciences. Instructional Professor Since 2022.

Adjunct Professor:

GEOFFREY J. LETCHWORTH, B.S. Trinity College 1965; D.V.M. New York State College of Veterinary Medicine 1972; Ph.D. Cornell University 1980; Adjunct Professor of Veterinary Sciences 2001.

JENNIFER L. MALMBERG, B.S. Doane University 2004; M.A. Chadron State University 2013; Ph.D. Colorado State University 2018; Adjunct Professor of Veterinary Sciences 2022.

ALEXANDERU-FLAVIU TABARAN, DVM, Ph.D., MSc, Habil., Diplomate ACVP (Anatomic Pathology) Adjunct Professor of Veterinary Sciences 2022.

SAMANTHA ALLEN, BSc and MSc University of Guelph 2007 and 2010; DVM Ontario Veterinary College 2014; PhD University of Guelph 2021; Adjunct Professor of Veterinary Sciences 2021

KERRY SONDGEROTH, B.A. University of New Hampshire 1997; D.V.M. Colorado State University 2006; Ph.D. Washington State University 2013; Assistant Professor of Veterinary Sciences 2014. Associate Professor of Veterinary Sciences 2020.

Professors Emeritus

E. Lee Belden, Francis D. Galey, Bill Jolley, Merl Raisbeck, Lynn Woodard, Gerry Andrews, Myrna Miller

The Department of Veterinary Sciences and the Department of Animal Science have combined their efforts to offer B.S., M.S., and Ph.D. degrees in animal and veterinary science (see listing under this title). Several options within the major are available including preveterinary medicine and animal biology. Undergraduate course offerings of the Department of Veterinary Sciences are listed under the title of pathobiology. They were designed to familiarize students with the principles of animal disease and the basic biological and biomedical sciences.

The department operates the Wyoming State Veterinary Laboratory, an animal disease diagnostic laboratory (wyovet.uwyo.edu). This laboratory provides valuable hands-on experience for students interested in laboratory animal care, laboratory procedures, and research. Excellent faculty mentors are available for students interested in preveterinary medicine, microbiology, and animal biology.

Animal and Veterinary Sciences

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the Bachelor of Science degree in animal and veterinary science. Courses in animal science, food science, and disease biology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

Several degree options allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements. A grade of C or better must be earned in the following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, 3100, 4120, 4540, 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, 2022.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Graduate Study

The Department of Veterinary Sciences offers advanced study leading to the Master of Science and doctor of philosophy in animal and veterinary science. Areas of emphasis include: pathology, molecular diagnostics, bacteriology, virology, parasitology, epidemiology, immunology, and toxicology of wild and domestic animals.

Program Specific Admission Requirements

Open to students with a Bachelor of Science degree who meet the requirements set forth in this Catalog.

Recommended prerequisites include: chemistry, biochemistry, animal anatomy and physiology, biology, microbiology, and introductory statistics.

Preferred Requirements

Competitive applicants for either degree program will have a GPA 3.250 or higher and high GRE scores (153 verbal, 149 quantitative, 302 total using best composite scores).

Department of Zoology and Physiology

114 Aven Nelson
(307) 766-4207
Web site: www.uwyo.edu/Zoology
Department Head: Robert S. Seville

Professors:

MERAV BEN-DAVID, B.S. Tel Aviv University 1984; M.S. 1988; Ph.D. University of Alaska 1996; Professor of Zoology and Physiology 2010, 2000.

MICHAEL E. DILLON, B.S. University of Texas, Austin 1998; Ph.D. University of Washington 2005; Professor of Zoology and Physiology 2021, 2009.

JACOB R. GOHEEN, B.S. Kansas State University 1998; M.S. Purdue University 2002; Ph.D. University of New Mexico 2006; Professor of Zoology and Physiology 2020, 2010.

MATTHEW J. KAUFFMAN, B.A. University of Oregon 1992; Ph.D. University of California, Santa Cruz 2003; Professor of Zoology and Physiology 2021, 2006.

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Associate Professor of Zoology and Physiology 2021, 2009.

FRANK J. RAHEL, B.A. Kenyon College 1974; M.S. University of Wisconsin 1977; Ph.D. 1982; Professor of Zoology and Physiology 1998, 1985.

ROBERT S. SEVILLE, B.S. San Diego State University 1981; M.S. University of Wyoming 1987; Ph.D. 1992; Professor of Zoology and Physiology 2011, 1995.

QIAN-QUAN SUN, B.Sc. Shandong Normal University 1990; M.S. 1993; Ph.D. St. Andrews University 1998; Professor of Zoology and Physiology 2016, 2004.

Associate Professors:

MATTHEW D. CARLING, B.S. University of Michigan 1997; M.S. University of Idaho 2002; Ph.D. Louisiana State University 2008; Associate Professor of Zoology and Physiology 2017, 2011.

ANNA D. CHALFOUN, B.A. Smith College 1995; M.S. University of MissouriColumbia 2000; Ph.D. University of MontanaMissoula 2006; Associate Professor of Zoology and Physiology 2016, 2011.

BRIAN D. CHERRINGTON, B.A. Washington University 1996; M.S. Colorado State University 2001; Ph.D. 2005; Associate Professor of Zoology and Physiology 2017, 2011.

AMY C. KRIST, B.A. State University of New York at Potsdam 1991; Ph.D. Indiana University 1998; Associate Professor of Zoology and Physiology 2017, 2004.

AMY M. NAVRATIL, B.S. Colorado State University 1999; Ph.D. 2005; Associate Professor of Zoology and Physiology 2019, 2011.

KARA PRATT, B.A.S. University of Delaware 1989; Ph.D. Brandeis University 2004; Associate Professor of Zoology and Physiology 2017, 2011.

COREY TARWATER, B.S. University of California, Davis 1999; M.S. University of Illinois, Urbana-Champaign 2006; Ph.D. University of Illinois, Urbana-Champaign 2010. Associate Professor of Zoology and Physiology 2022, 2015.

ANNIKA W. WALTERS, B.A. Princeton University 2002; M.S. Yale University 2006; Ph.D. 2009; Associate Professor of Zoology and Physiology 2019, 2011.

Assistant Professors:

NICOLE L. BEDFORD, B.S. University of British Columbia 2010; Ph.D Harvard University 2019; Assistant Professor of Zoology and Physiology 2021.

RILEY FEHR BERNARD, B.Sc. Linfield College 2007; M.Sc. University of Hawaii Hilo 2011; Ph.D. University of Tennessee 2015; Assistant Professor of Zoology and Physiology, 2020.

SARAH M. COLLINS, B.A. Lewis & Clark College 2007; Ph.D. Cornell University 2015; Assistant Professor of Zoology and Physiology 2018.

WILLIAM WARREN FETZER, B.S. University of Wisconsin-Madison 2005; M.S. Cornell University 2009; Ph.D. 2013. Assistant Professor of Zoology and Physiology 2020.

YUN LI, B.S. University of Science and Technology of Chine 1996; M.S. 1998; Ph.D. University of Texas Health Center at San Antonio 2003; Assistant Professor of Zoology and Physiology 2018.

JEROD A. MERKLE, B.S. University of Arizona 2006; M.S. University of Montana 2011; Ph.D. Univesité Laval 2014; Assistant Professor of Zoology and Physiology 2018.

ADAM C. NELSON, B.S. University of Montana 2001; Ph.D. University of Utah 2011; Assistant Professor of Zoology and Physiology 2021.

BRANDON ROBERTS, B.S. Washington State University 2009; Ph.D. Washington State University 2015; Assistant Professor of Zoology and Physiology 2023.

RAMMOHAN SHUKLA, B.S. College of Agriculture Nagpur 2004; M.S. Tamil Nadu Agricultural University 2006; Ph.D. National Institute for Basic Biology, Japan 2014 ; Assistant Professor of Zoology and Physiology 2023.

W.D. (TREY) TODD, B.S. Baylor University 2005; M.A. University of Iowa 2009; Ph.D. 2012; Assistant Professor of Zoology and Physiology 2019.

Assistant Professor of Practice:

BETHANN G. MERKLE, B.A. University of Montana 2007; M.F.A. University of Wyoming 2017; Assistant Professor of Practice 2021.

Senior Academic Professional Research Scientist:

ZHAOJIE ZHANG, B.S. Shandong University 1985; M.S. 1988; Ph.D. University of Oklahoma 1999; Director, Microscopy Core Facility, University of Wyoming 2001; Senior Research Scientist in Zoology and Physiology 2012.

Assistant Academic Professional Research Scientist:

JONATHAN PATRICK KELLEY, A.B. Harvard 2001; Ph.D. University of California, Davis 2012; Assistant Research Scientist in Zoology and Physiology 2018.

Professors Emeritus:

Craig W. Benkman, Harold L. Bergman, Steven W. Buskirk, Francis W. Flynn, Zoltan M. Fuzessery, Robert P. George, William A. Gern, Robert O. Hall, Henry J. Harlow, Wayne A. Hubert, Robert M. Kitchin, J.A. Lillegraven, Frederick G. Lindzey, James R. Lovvorn, Carlos Martinez del Rio, David B. McDonald, Graham Mitchell, James D. Rose, Joan Smith-Sonneborn

Academic Professional Lecturer Emeritus:

Jane Beiswenger

Wyoming Cooperative Fish and Wildlife Research Unit Unit:

Wyoming Cooperative Fish and Wildlife Research Unit Unit Leader: Matthew W. Kauffman
Assistant Unit Leader for Fisheries: Annika W. Walters
Assistant Unit Leader for Wildlife: Anna D. Chalfoun

Department of Zoology and Physiology

The Department of Zoology and Physiology offers a variety of courses in the biological sciences that encompass many aspects of animal form, function, and biology. Whether you are interested in the intricacies of cell biology or the complexities of ecosystem functioning and whether you want to become a wildlife biologist or a physician, we offer a major that will suit your needs.

Undergraduate Degrees:

Students can choose from three undergraduate degrees: physiology, wildlife and fisheries biology and management, or zoology.

Learning Outcomes for Undergraduates

The learning outcomes that direct the teaching of the department's degrees and which we expect our graduates to have acquired are:

- Competence in basic sciences;
- Competence in the content of the specific courses that constitute the principal knowledge of the degree;
- Ability to comprehend, analyze, and interpret biological data where appropriate; and
- Ability to synthesize information from the biological literature, and communicate it effectively in writing or orally.

Undergraduate Minors:

Minors in human and animal physiology, wildlife fisheries biology management, neuroscience, and zoology are offered.

Graduate Study

The Department of Zoology and Physiology offers programs leading to the master of science and the doctor of philosophy in zoology and physiology. We also participate in graduate programs through the Neuroscience Program and the Program in Ecology.

Program Specific Admission Requirements

Admission is open to all students who meet the minimum requirements set forth in the admissions section of this *Catalog*.

Research and teaching assistantships are available for graduate students working toward the M.S. or Ph.D. degrees. Applicants can apply for this financial assistance at the time they apply for admission to graduate standing. Applications must be completed by February 15 in order to be considered for the following academic year.

Information on how to apply to the graduate program in the Department of Zoology and Physiology is detailed on our web site. Begin by identifying a faculty member in our department whose research interests are similar to yours. We will only consider an application if a faculty member has indicated a willingness to serve as the student's adviser. After finding a potential adviser, e-mail a completed departmental application form, a copy of your curriculum vitae, copies of college transcripts, and recommendation letters to him or her. Our graduate admissions committee will review all applications and make decisions on admission based on the availability of funding and a commitment from a faculty member to serve as the adviser. Students recommended for admission will then be asked to fill out an application to the University of Wyoming and pay a non-refundable application fee.

Consult the website, www.uwyo.edu/zoology, to find out about faculty research.

Learning Outcomes for M.S. Students

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. College and analyze data to address a research question.
3. Summarize research findings and communicate them effectively in writing and orally.

Learning Outcomes for Doctoral Students

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. Develop a research project which constitutes a substantial and original contribution to the field of study.
3. Summarize research findings and communicate them effectively in writing and orally.

Major

Physiology, B.S.

Physiology is the science of how the body functions in health and disease. A degree in physiology provides excellent preparation for careers or graduate study in the health professions and biomedical research or related disciplines.

Additional Information

Physiology is the study of how animals work: how they breathe, feed, interact with their environment, and carry out many other activities and functions. Physiology is the knowledge that the health sciences are built on and so is especially important for students who may be thinking of becoming medical practitioners, veterinarians or health care professionals.

All courses in the major must be completed with a grade of "C" or better.

University Studies Program Requirements

The University Studies Program 2015

- FYS- First Year - Seminar Credits: 3
- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

Zoology and Physiology Department Requirements

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses:

(MATH 1450 may substituted for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
  OR
- MICR 2021 - General Microbiology Credits: 4
  OR
- MOLB 2021 - General Microbiology Credits: 4
- LIFE 3050 - Genetics Credits: 4

Two Additional CHEM Courses:

*MOLB 3610 may be used as a CHEM elective, but cannot also count as a PHSO Core Elective.

*CHEM 3550 may be used as a CHEM elective, but cannot also count as a PHSO Core Elective

- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3020 - Environmental Chemistry Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- CHEM 4050 - Solar Energy Conversion Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4400 - Biological Chemistry Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4 *

Physiology Core Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5

- ZOO 4100 - Scientific Communication Credits: 2
  (or approved C3 substitute) **AND**
- ZOO 4101 - Scientific Communication Lab Credits: 1
  (or approved C3 substitute)
  OR
- ZOO 4200 - Applied Principles of Science Communication Credits: 3
  (or approved USP C3 substitute)

Physiology Core Electives

A minimum of 10 of the 18 Physiology Core Elective credits must be exclusive to the PHSO major.

At the end of this program students will have a thorough knowledge of physiology, will be well prepared to enter health sciences or graduate education, and will have a range of skills attractive to employers.

Choose a Total of 18 Credits From:

**cannot count towards PHSO electives if used as a CHEM requirement in the Foundational Courses

- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3 **
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3038 - Exercise Psychology Credits: 3
- KIN 4042 - Advanced Biomechanics Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MICR 4001 - Epidemiology (Diseases in Population) Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4 **
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4001 - Epidemiology (Diseases in Population) Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4140 - Principles of Toxicology Credits: 3
- PATB 4400 - Immunology Credits: 4
- PATB 4710 - Medical Virology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- SOC 4160 - Sociology of Aging Credits: 3
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology Credits: 4
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ZOO 4736 - Mechanisms of Hormone Action Credits:
- ZOO 4737 - Mammalian Genomics Credits:
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- ZOO 5685 - Neurophysiology Credits: 3

Wildlife and Fisheries Biology and Management, B.S.

Provides a solid foundation in the theory and techniques involved in the management, conservation, and captive propagation of wildlife and fish populations. Includes both classroom and field experiences in a Rocky Mountain setting.

Additional Information

Wildlife and Fisheries Biology and Management is a professional degree designed to prepare students for state, federal, and other positions in resource management and conservation biology. The degree provides students with knowledge of the natural world, understanding of processes governing dynamics of wildlife and fish populations, as well as an appreciation of human-mediated effects on wildlife and fish populations. A student graduating with this degree will be familiar with the theory of resource management as well as with methods used to determine population status, habitat quality, and conservation. In Wyoming the abundance of wild animals and pristine habitats provide a unique natural laboratory for studying the responses of wildlife and fish populations to changing climates and habitats.

A student graduating with a degree in WFBM will have comprehensive knowledge of wildlife and fisheries biology and management, will have earned a degree that is compatible with the requirements for professional certification with the American Fisheries Society or the Wildlife Society, and will have a range of knowledge and skills that are valuable to potential employers.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Zoology and Physiology Department Requirement

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

(MATH 1450 may substitute for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4 (may substitute MATH 2350)
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
  OR
- LIFE 2100 - Intro Research and Analysis Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

- GEOL 1100 - Physical Geology Credits: 4
  OR
- PHYS 1110 - General Physics I Credits: 4
  OR
- SOIL 2010 - Introduction to Soil Science Credits: 4

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

Data Science course

Choose ONE course from the following:

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
  GIST 2150 - Intro to Programming in GIST
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- ZOO 4530 - R Introduction for Wildlife Ecology Credits:

Core Required Courses

- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3

- LIFE 3410 - Introduction to Field Ecology Credits: 2
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4970 - Internship in Wildlife Management Credits: 1
- ZOO 4100 - Scientific Communication Credits: 2 (or approved USP C3 substitute) **AND**
- ZOO 4101 - Scientific Communication Lab Credits: 1 (or approved USP C3 substitute)
  OR
- ZOO 4200 - Applied Principles of Science Communication Credits: 3 **OR** (approved USP C3 substitute)

Options

Complete Terrestrial OR Aquatic Option

Aquatic Option

A minimum of 10 of the AQUATIC OPTION requirements listed below (ZOO 4330 and ZOO 4440 and ZOO 4430 and Restricted Electives) must be exclusive to the WFBM major.

REQUIRED COURSES

- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2

Restricted Electives

15 Credits of Electives from the following list:

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4300 - Wildlife Ecology and Management Credits: 5
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5
- SOC 3950 - Environmental Sociology Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- BOT 0000:5999
- ENR 0000:5999
- REWM 0000:5999

Terrestrial Option

A minimum of 10 of the TERRESTRIAL OPTION requirements listed below (BOT 4700 and ZOO 4300 and Restricted Electives) must be exclusive to the WFBM major.

REQUIRED COURSES

- BOT 4700 - Vegetation Ecology Credits: 4
- ZOO 4300 - Wildlife Ecology and Management Credits: 5

Restricted Electives

14 Credits of Electives from the following list:

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2
- ZOO 4440 - Limnology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- BOT 0000:5999
- ENR 0000:5999
- REWM 0000:5999

Zoology, B.S.

Zoology majors explore form, function, behavior, ecology, evolution and conservation of animals and hone analytical, writing, and research skills for diverse careers from graduate school to state and federal agencies, consulting, and nonprofits.

Additional Information

Zoology is the study of animals: their structure, physiology, development and evolution. One of the enduring fascinations of zoology is that we can learn so much about ourselves and our environment by studying what our fellow creatures do.

At the end of this program students will have a comprehensive knowledge of zoology, will be well prepared for graduate education, and will be equipped to enter any of the many employment opportunities that are available.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Zoology and Physiology Department Requirements

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

(MATH 1450 may substitute for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
  OR
- LIFE 2100 - Intro Research and Analysis Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
  OR
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
  OR
- CHEM 2420 - Organic Chemistry I Credits: 4
  OR
- CHEM 2440 - Organic Chemistry II Credits: 4

OR

- CHEM 3020 - Environmental Chemistry Credits: 3
  OR
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
  OR
- CHEM 4050 - Solar Energy Conversion Credits: 3
  OR
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
  OR
- CHEM 4400 - Biological Chemistry Credits: 3
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2 (or approved USP C3 substitute)
  AND
- ZOO 4101 - Scientific Communication Lab Credits: 1 (or approved USP C3 substitute)
  OR
- ZOO 4200 - Applied Principles of Science Communication Credits: 3 (or approved USP C3 substitute)

Advanced Zoology Course

* if more than one of the required courses is completed, additional courses can count towards the Zoology Approved Core Electives below.

One of:

- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4

Zoology Approved Core Electives

A minimum of 10 of 18 Zoology Approved Core Electives must be exclusive to the ZOOL major.

Choose a total of 18 credits from:

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4300 - Wildlife Ecology and Management Credits: 5
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4330 - Ichthyology Credits: 3

- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2
- ZOO 4440 - Limnology Credits: 3
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- BOT 4235 - Marine Biology Credits: 3
- BOT 4550 - Computational Biology Credits: 4
- BOT 4664 - Special Topics in Evolution Credits: 1-4
- BOT 4790 - Special Topics in Ecology Credits: 1-3
- GEOG 3150
- GEOG 3480 - Environmental Change Credits: 3
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4682 - Insect Anatomy and Physiology Credits: 5
- ENTO 4678 - Aquatic Entomology Credits: 3
- ENTO 4684 - Classification of Insects Credits: 4
- PATB 4170 - Diseases of Wildlife Credits: 3
- PATB 4310
- PATB 4360
- PATB 4710 - Medical Virology Credits: 3

Minor

Human and Animal Physiology Minor

Physiology is the science of how the body functions in health and disease. A minor in physiology provides additional background for students in a variety of majors.

Human and Animal Physiology minor - requirements

Requirements for the minor in human and animal physiology (AHPY) include a minimum of 18 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4

At Least One of These Three:

* if more than one of the three required courses is completed, additional courses can count towards Physiology Core elective courses requirement below.

- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4

Elective Courses

Physiology Core Electives. At least three courses from:

- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3038 - Exercise Psychology Credits: 3
- KIN 4042 - Advanced Biomechanics Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4140 - Principles of Toxicology Credits: 3
- PATB 4400 - Immunology Credits: 4
- PATB 4710 - Medical Virology Credits: 3
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- SOC 4160 - Sociology of Aging Credits: 3
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology Credits: 4
  OR
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ZOO 4736 - Mechanisms of Hormone Action Credits:

- ZOO 4737 - Mammalian Genomics Credits:
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- ZOO 5685 - Neurophysiology Credits: 3

Neuroscience Minor

Neuroscience explores the nervous system structure and function. Electrical signaling of neurons provides the basis of our thoughts, perceptions, learning, movement, emotion, sleep-wakefulness, and behavior.

Additional Information

Minimum credit hours: 17. Courses counted towards one minor my NOT count towards a different minor. A grade of "C" or better is required in all coursework in the Neurosciences minor.

Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4280 - Introduction to Neuroscience Credits: 3

Elective Courses:

- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
  (ZOO 4735 sections must have a neurosciences aspect, consult your advisor for help selecting appropriate sections).
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4295 - Neurodevelopment Credits: 3
- ZOO 5685 - Neurophysiology Credits: 3
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4

Wildlife Fisheries Biology Management Minor

Course include theory and techniques involved in the management, conservation, and captive propagation of wildlife and fish populations. Includes both classroom and field experiences in a Rocky Mountain setting.

Wildlife Fisheries Biology Management minor - requirements

Requirements for the minor in wildlife fisheries biology management (WFBM) include a minimum of 18 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

9 or 11 credit hours required from the following:

- LIFE 3400 - General Ecology Credits: 3
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

One (1) Course From:

- ZOO 4300 - Wildlife Ecology and Management Credits: 5
  OR
- ZOO 4310 - Fisheries Management Credits: 3

Elective Courses

Select three (3) of the following courses, one of which must have a laboratory component:

- LIFE 3050 - Genetics Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3

Zoology Minor

Explore form, function, behavior, ecology, evolution and conservation of animals and hone analytical, writing, and research skills.

Zoology Minor - requirements

Requirements for the minor in zoology (ZOOL) include a minimum of 17 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Course

- LIFE 3050 - Genetics Credits: 4

Elective Courses

Select four (4) of the following courses, one of which must have a laboratory component:

- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- ZOO 3115 - Human Systems Physiology Credits: 4

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- BOT 4235 - Marine Biology Credits: 3

Graduate

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

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Overview

The School of Pharmacy and the Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources offer a dual degree program in which a student who meets the admission qualifications of both programs may simultaneously pursue a combined program of study leading to both the Bachelor of Science degree in Physiology (Physiology BS [PHSO]) and the Doctor of Pharmacy (PharmD) degree. The School of Pharmacy accepts up to ten (10) credit hours of courses in the Physiology BS program toward the credits of the PharmD degree. The College Agriculture, Life Sciences, and Natural Resources Department of Zoology/Physiology accepts up to eighteen (18) credit hours of required courses in the PharmD program toward the credits of the Physiology BS degree. The specific required courses accepted by each will be chosen from the applicable University Catalog. In total, up to twenty (28) credits can be shared across the degrees.

Students will typically spend years one to three in the Department of Zoology and Physiology and years four through seven (4-7) in the School of Pharmacy. Students desiring to complete the dual program in a different sequence should consult with, and seek approval from each program, keeping in mind the program requirements.

Admission to the Dual Program

Student who wish to declare the dual Physiology BS-PharmD program start their freshman year as Physiology or Pre-pharmacy majors and declare as sophomores provided they are on-track to meet the PharmD admissions standards.

Early Assurance: Students in the Dual Degree Program with sophomore standing and a college GPA of 3.3 will be provisionally accepted into the PharmD program, pending a successful interview.

Basic Provisions of the Dual Degree Offering

1. The School of Pharmacy will accept up to ten (10) credit hours of coursework from the Physiology BS program, provided the student earns a grade of "C" or better. The exact courses designated for credit toward the PharmD will be jointly determined from the applicable catalog by an approving authority in both programs.

2. The Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources will accept up to eighteen (18) credit hours coursework from the PharmD, provided the student earns a grade of "C" or better. The exact PharmD courses designated for credit toward the Physiology BS degree will be jointly determined from the applicable catalog by an approving authority in both programs.

3. Separate grade point averages will be calculated for each program.

4. Students in the dual program must meet all other requirements for the PharmD and Physiology BS programs such as co-curricular programming, experiential learning, and other requirements.

5. The PharmD degree and the Physiology BS degree will be awarded when all the degree program requirements for each respective program have been met.

6. Both the School of Pharmacy and the Physiology BS program will include information on their websites about the dual degree and will strive to promote the program as part of their recruitment efforts.

7. The Physiology BS degree will be the primary degree for years 1-3, then the PharmD degree will be the primary degree once the students matriculate into pharmacy school.

Dual Physiology BS/PharmD Degree

I. ADMISSION
a. Interested students should declare the Dual Physiology BS/PharmD Degree track during years 1-3 of the Physiology

II. GRADUATION
a. Students in the dual degree program will complete all graduation requirements for both degree programs.

III. DEGREE CONFERRAL
a. Two separate degrees will be posted and may include a note at the top of either transcript indicating the number of Physiology hours or PharmD hours accepted as electives toward either degree.
b. This will be the only indication on the student's transcript that they were pursuing a dual Physiology BS/PharmD degree. This note may be necessary to account for the shared credits across degrees and comply with the minimum credits required by the University.

Changes to Curriculum

This agreement will apply to the degree requirements for the full-time, on-campus Physiology BS degree and Doctor of Pharmacy degree outlined in the applicable University of Wyoming Catalog. Issues related to individual students or changes in either degree program requirements will be jointly resolved by the School of Pharmacy and the Department of Zoology and Physiology.

Curriculum Information

Please visit the Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program Curriculum page for information on degree requirements.

Zoology and Physiology, M.S.

Advanced-degree students in Zoo/Phys experience collaborative, interdisciplinary approaches to basic and applied questions. Work spans molecules to ecosystems, with training in fields including physiology, ecology, evolution, fisheries, and wildlife.

Plan A (Thesis)

Includes 26 hours of coursework and 4 hours of thesis research.

Applicants should have at least 20 semester hours of undergraduate work in zoology, physiology, or other areas of the biosciences and have completed introductory courses in mathematics, chemistry, and in at least one other natural or physical science. Early in the second semester the student must file a program of study with the university and have a graduate committee appointed. Plan A candidates shall orally defend the thesis before the graduate committee.

All M.S. candidates will be required to complete credit in two graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

After two semesters in the department, a Plan A master's candidate may request permission from the department's graduate advisory board to proceed directly to the Ph.D. degree; however, such a bypass is granted only by the department head after considering recommendations from the graduate advisory board.

Zoology and physiology may be used as a field by a candidate working for the interdisciplinary master of science in natural science in the College of Arts and Sciences and the College of Education.

Plan B (Non-Thesis)

Includes 30 hours of coursework.

The program for the Plan B is established by the student and a faculty adviser and must be approved by the department head during the student's second semester or summer session.

The graduate committee will require the candidate to take a written examination. An oral examination may also be required. The final examination is comprehensive, covering all areas of zoology, but emphasizing one major area.

Zoology and Physiology, Ph.D.

Advanced-degree students in Zoo/Phys experience collaborative, interdisciplinary approaches to basic and applied questions. Work spans molecules to ecosystems, with training in fields including physiology, ecology, evolution, fisheries, and wildlife.

Additional Information

This is a 72 hour program.

A Ph.D. applicant must have 20 hours of undergraduate work in zoology, physiology, or other areas of biology and also have completed substantial undergraduate work in other sciences. Under exceptional circumstances, a student with an undergraduate major in a scientific discipline other than biology may be admitted. After the Ph.D. student has completed two semesters of graduate work, s/he must be approved for continued work toward the doctorate by the graduate advisory board. This board can reconsider a candidate thereafter if it so desires.

A graduate committee shall be appointed for the individual student no later than the third semester. After consultation with the student, this committee will prescribe special requirements (courses, minors, research tools, etc.) that must be fulfilled. At this time, the graduate committee shall consult with the candidate on the proposed research and shall identify the subject matter areas to be included in the preliminary examination. The preliminary examination will consist of a written research proposal, its oral defense, and a written and oral preliminary examination. When training outside zoology and physiology is specified by the committee, certification of satisfactory completion of the requirement will be made by the appropriate department.

In addition to the general university requirements for the Ph.D. degree, the department requires the following:

The coursework program should include work in a discipline outside the department, generally in the sense of a minor, to be identified in consultation with the graduate committee.

The preliminary examination consisting of written and oral portions should be taken no later than midterm of the fourth semester in residence. The graduate committee will certify satisfactory performance for the preliminary examination.

The dissertation must be received by each member of the graduate committee three weeks before the final dissertation seminar. As oral defense of the dissertation, the candidate will deliver a formal 50 minute seminar on original research from the dissertation. The seminar will be followed by an examination by the graduate committee.

Some time during their degree program, all Ph.D. candidates will be required to complete credit in three graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

All candidates for the Ph.D. degree shall be required to teach for one semester during their program.

The dissertation may be written in a format suitable for publication in a journal and the usual extensive literature review, description of study sites, technical details, raw data, supporting figures, charts, and photographs should be included in a well-organized appendix. (See also format requirements by the university.)

Microbiology Program: Interdepartmental major

5004 Agriculture Building, (307) 766-3139
FAX: (307) 766-3875
E-mail: microbiology@uwyo.edu
Program Director: Interdepartmental Microbiology Steering Committee

Microbiology is the study of life forms too small to be observed without the aid of magnification. Major groups of microbes include the bacteria, fungi (yeasts and molds), protozoa, and algae, as well as the viruses. In addition, related disciplines such as immunology and molecular biology are included because of their historical origins within microbiology.

As such, the science of microbiology is divided into numerous subspecialty areas that reflect not only the individual groups of microbes (e.g., bacteriology, virology, mycology, etc.), but also their significance in applied areas (e.g., medical microbiology/infectious diseases, microbial ecology, food microbiology, industrial microbiology, biotechnology, etc.) or in areas of basic science (e.g., molecular genetics). Throughout its history, microbiology has played a key role in the development of our understanding of basic biochemical and genetic processes, control of infectious diseases, production of increased and improved food supplies, and the production of numerous commercial

products. With the development of molecular techniques to construct genetically engineered microbes, microbiologists will continue to make expanding contributions in these and other areas.

Because microbiology is a diverse science, individuals trained as microbiologists find exciting career opportunities in many areas of the basic and applied sciences. Typically, microbiologists are employed in five major sectors: private industry; clinical laboratories; government agencies; universities and various other settings such as water treatment, food production/inspection facilities, and other public health-related areas. Recent manpower assessment studies at both the national and regional levels have provided evidence for a continuing and expanding need for microbiologists such that successful undergraduate students completing this program may look forward to exciting careers. In addition, undergraduates trained in the microbiological sciences are well prepared for competitive application to graduate school programs and professional programs in human or veterinary medicine, optometry or dentistry.

The Bachelor of Science degree program in microbiology is organized as an interdepartmental major involving the collaborative teaching, advising, and research expertise of microbiology faculty from the College of Agriculture, Life Sciences and Natural Resources, Haub School of Environment and Natural Resources, and College of Health Sciences. The program is administered by a Program Director and the Interdepartmental Microbiology Steering Committee, representing each of the participating colleges. Students obtain their degree in the College of Agriculture, Life Sciences and Natural Resources. Additional information about the microbiology program may be obtained at the following website address and by contacting the Program Director or one of the members of the Interdepartmental Microbiology Steering Committee listed below.

www.uwyo.edu/uwag/departments/microbiology.html

- BERIT BANGOURA, Veterinary Sciences
- BLEDAR BISHA, Animal Sciences
- GRANT BOWMAN, Molecular Biology
- ELIZABETH CASE, Veterinary Sciences
- BRIDGET DECKER, Molecular Biology
- JASON GIGLEY, Molecular Biology
- MARK GOMELSKY, Molecular Biology
- MYRNA MILLER, Veterinary Sciences
- EUNSOOK PARK, Molecular Biology
- KERRY SONDGEROTH, Veterinary Sciences
- HOLLY STEINKRAUS, Molecular Biology
- LINDA VAN DIEPEN, Ecosystem Science and Management
- DANIEL WALL, Molecular Biology
- RACHEL WATSON, Haub School of Environment and Natural Resources
- JOHN WILLFORD, WWAMI Medical Education Program
- KASSANDRA WILLINGHAM, Molecular Biology

Major

Microbiology, B.S.

The Interdepartmental Microbiology B.S. degree includes basic science, microbiology core, and elective courses selected from the main areas of medical or environmental microbiology, or molecular and cell biology.

Degree Requirements

This degree requires 121 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

The curriculum is designed to prepare graduates for the future by combining a firm foundation in the basic sciences with a central core of microbiology classes, followed by the opportunity for students to specialize in areas of microbiology suiting their individual interests via the selection of electives.

Prior to graduation, microbiology majors must complete the basic requirements and all microbiology core course requirements as listed below. Finally, to assure breadth of exposure in microbiology, students must complete 6 semester hours of microbiology electives. The microbiology curriculum is organized to provide students with the maximum flexibility in meeting their university studies program requirements.

Students pursuing the B.S. degree in microbiology who wish to pursue a dual major in both microbiology and molecular biology must satisfy the basic science/math and core/elective requirements in microbiology as well as those specified for the B.S. degree in molecular biology PLUS an additional 9 credits of electives in microbiology and/or molecular biology at the 4000/5000 level.

Course Requirements

Basic Sciences and Quantitative Reasoning: 40-42 Hours

- MATH 1450 - Algebra and Trigonometry Credits: 5
  OR
- MATH 2200 - Calculus I Credits: 4
  OR
- MATH 1400 - College Algebra Credits: 3
  AND
- MATH 1405 - Trigonometry Credits: 3

- STAT 2050 - Fundamentals of Statistics Credits: 4
- LIFE 1010 - General Biology Credits: 4

- LIFE 2022 - Animal Biology Credits: 4
  OR
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

MICR Core Requirement: 37 Hours

- MICR 2021 - General Microbiology Credits: 4
  OR
- MOLB 2021 - General Microbiology Credits: 4
  OR
- MICR 2240 - Medical Microbiology Credits: 4
  OR
- MOLB 2240 - Medical Microbiology Credits: 4

- PATB 2220 - Pathogenic Microbiology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PATB 4400 - Immunology Credits: 4
  OR
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- PATB 4710 - Medical Virology Credits: 3
- MICR 4321 - Microbiology Capstone Credits: 4

  Take 2 credits total of any combination of the following 1-credit seminar courses:
- PATB 4150 - Seminar Credits: 1
  OR
- MOLB 4050 - Student Seminar: Topics in ___ Credits: 1
  OR
- MOLB 4051 - Departmental Seminar Credits: 1
  OR
- MOLB 4052 - Summer Seminar Credits: 1

MICR Elective Requirement: 6 Hours

In addition to completing the required microbiology courses listed above, students must complete 6 hours of microbiology electives from any of the following lists.

Medical Microbiology

- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4001 - Epidemiology (Diseases in Population) Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4170 - Diseases of Wildlife Credits: 3
- MICR 4200 - Diagnostic Bacteriology Credits: 1
- PATB 4220 - Molecular Mechanisms of Bacterial Pathogenesis Credits: 3
- PATB 4240 - Disease Ecology Credits: 3
- MICR 4360 - Medical Entomology and Parasitology Credits: 4
- PATB 4500 - Veterinary Parasitology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3

Molecular and Cell Biology

- LIFE 3600 - Cell Biology Credits: 4
- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Environmental and Applied Microbiology

- MICR 3021 - Eukaryotic Microbes Credits: 3
- MICR 4540 - Microbial Diversity and Ecology Credits: 4
  OR
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
  OR
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

- MICR 4140 - Soil Microbiology Credits: 4
- BOT 4200 - Plant-Microbe Interactions Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- FDSC 4090 - Food Microbiology Credits: 3
- FDSC 4100 - Laboratory Techniques in Food Microbiology Credits: 1

Life Sciences Program

Life Sciences Program

107 Aven Nelson Building

Program Director: Jonathan Prather

Associate Director: Christopher North

The Life Sciences Program consists of all LIFE prefix courses. These courses support life science majors and non-life science majors across campus. The foundational curriculum provides science majors with both breadth and depth in the basic life sciences, and non-science majors with key concepts in biology as well as an understanding of the connections between science and society. Courses familiarize students with the diversity of life and expand upon the fields of cell and molecular biology, genetics, ecology, and evolution.

Courses within the curriculum emphasize four fundamental goals at a level appropriate for each course:

1. Acquisition, Application and Synthesis of Knowledge

2. Communication Skills

3. Critical Thinking and Problem Solving

4. Research Skills

Professor:

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Professor of Zoology and Physiology 2021, 2009.

Other Programs

Life Sciences

Life Sciences Program

107 Aven Nelson Building, 766-4158 Web site: www.uwyo.edu/lifescience

Program Director: Jonathan Prather

The Life Sciences Program consists of all LIFE prefix courses. These courses support a wide range of life science majors and several non-life science majors across campus. The number of LIFE courses taken by students in each major is determined by the departments that offer the majors. The curriculum intends to provide science majors with both breadth and depth in the basic life sciences, and nonscience majors with exposure to key concepts in biology and an understanding of the connections between science and society. The program courses also expose students to the fields of cell and molecular biology, genetics, ecology, and evolution, and they familiarize students with the diversity of life on the planet. Courses within the curriculum address four fundamental goals at a level appropriate for each course: 1. Acquisition, Application and Synthesis of Knowledge 2. Communication Skills 3. Critical Thinking and Problem Solving 4. Research Skills The Life Sciences courses listed below were previously offered under the BIOL prefix. All courses listed below are now offered through the LIFE prefix.

Ranch Management & Agricultural Leadership

College of Arts and Sciences

College of Arts & Sciences

113 Arts and Sciences Building

J. Scott Turpen, Dean
Phone: (307) 766-4106 FAX: (307) 766-2697
Web site: www.uwyo.edu/as

Aims and Objectives

The College of Arts and Sciences (A&S) is committed to providing a balanced education that matches cultural breadth with disciplinary depth. Students learn to address complex contemporary problems and to place them in their wider social, historical, and ethical contexts. To achieve these goals, degree programs require students to develop expertise in a particular field, gain critical understanding of major areas of human knowledge, and select from required courses and free electives to prepare for the challenges of the 21st century.

A successful student in any program in the College of Arts and Sciences will have an excellent foundation for professional success, graduate study, and a passion for lifelong learning.

Through hands-on research and creative projects (either faculty projects or independent projects with faculty mentoring), fieldwork, internships, and study abroad, students integrate classroom learning with real-world experience and application.

Student Responsibilities

To graduate from the College of Arts and Sciences, students must satisfy all university, college, and major requirements for a given degree. These requirements apply whether the work is taken within the college or transferred from anywhere else within or outside the university (refer to section below "Acceptance of Transfer Credit").

The college holds students responsible for completing degree and major requirements, including the necessary courses. Students are also expected to know the academic standards, communicated in university regulations, that must be maintained to continue study at the university. Students should be aware that changing majors and/or colleges may result in delays in meeting degree requirements and that requirements themselves sometimes change (see "Graduation Requirements and Procedures" section of this *Catalog*).

Academic Advising

To help plan a program of study, an academic advisor in the College of Arts and Sciences Advising Center is assigned to each student. Students who are undecided about a major are advised in the UW Advising, Career, and Exploratory Studies office (222 Knight Hall).

Students should consult regularly with their academic advisor not only for course scheduling but also to discuss educational and career goals. Faculty and professional advisors can connect students to the many college and university

resources to assist undergraduate study. Instructors are also willing to discuss concerns students may have regarding specific courses.

Changing/Declaring a Major or Minor

When ready to declare or change a major, minor, or dual/concurrent major in a program in the college, a student can obtain the appropriate form from the Office of the Registrar (167 Knight Hall) or the Registrar's Web page. Approval is required from the appropriate Department Heads or Program Directors, and a new advisor may be assigned.

Programs of Study

Undergraduate Degrees

A variety of specialized concentrations are offered within many of the following degree programs. These are described in the Department sections of this *Catalog* and/or in the Departments' individual websites. Additionally, there are several inter-college or interdisciplinary degrees/majors such as International Studies and the affiliated major in Environment and Natural Resources that draw courses from several disciplines. For more detailed descriptions, click on the A-Z Directory.

Bachelor of Arts

African American and Diaspora Studies
American Studies
Anthropology
Art Education
Art History
Communication
Criminal Justice
English
French
Gender and Women's Studies
German
History
International Studies
Journalism
Music
Native American and Indigenous Studies
Philosophy
Political Science
Religious Studies
Sociology
Spanish
Studio Art
Theatre and Dance

Bachelor of Science

Communication
Political Science
Psychology

Bachelor of Fine Arts

Studio Art
Theatre and Dance, Acting Performance Concentration
Theatre and Dance, Musical Theatre Performance Concentration
Theater and Dance, Theatre English Concentration
Theatre and Dance, Dance Performance Concentration
Theatre and Dance, Dance Science Concentration
Theatre and Dance, Design Tech Management Concentration
Visual Communication Design

Bachelor of Music

Jazz Performance
Music Education
Music Performance

Graduate Degrees

Master of Arts

American Studies *(interdisciplinary)*
Anthropology
Communication
English
History
International Studies *(interdisciplinary)*
Political Science
Spanish

Master of Science

Psychology

Master of Fine Arts

Creative Writing

Master of Music

Master of Music Education

Master of Public Administration

Doctor of Philosophy

Anthropology
Psychology

Minors in Arts and Sciences

The College of Arts and Sciences offers all university students systematic studies leading to recognized academic minors. Minors are available in all academic programs in the college and in numerous interdisciplinary areas.

A&S minors have two aims: to encourage students to create a focus for their course-work outside their major by coordinating their elective studies; and to enhance opportunities for employment or graduate admission with a formally recognized field of study.

Minors consist of course requirements ranging from 18-24 credit hours of study, typically including significant work at the junior and senior level. A&S departments and programs offering minors and interdisciplinary degrees may have further conditions and restrictions regarding requirements in the minor. To be counted toward a minor, courses must be completed with a grade of C or better.

Students desiring a minor must notify the department in which the minor is offered. Forms for declaring a minor are available in the Office of the Registrar (167 Knight Hall) or on the Registrar's Web page (see Change of Major form). An advisor for the minor will be assigned by either the College of Arts and Sciences Advising Center or, in some cases, the department of the minor.

For detailed descriptions of the minors in A&S, see Department offices or websites.

Minors available from A&S Departments/Schools include:

Department of Anthropology
Anthropology

Department of Communication and Journalism
Communication
Journalism
Marketing Communication
Public Relations

Department of Criminal Justice and Sociology
Criminal Justice
Interdisciplinary Pre-law
Sociology

School of Culture, Gender, and Social Justice
African American and Diaspora Studies
American Studies
Gender and Women's Studies
Latina/o Studies
Native American and Indigenous Studies
Queer Studies

Department of English
Creative Writing
Literary Studies
Professional Writing

Department of History
History

School of Politics, Public Affairs, and International Studies
American Politics
Asian Studies
European Studies
International Relations and Comparative Government
International Studies
Middle East and North Africa
Political Theory
Public Law

Department of Modern and Classical Languages
Chinese
Classical Civilization
French
German
Japanese
Latin
Spanish

Department of Music
Music

Department of Philosophy and Religious Studies
Environmental Values
Ethics
Philosophy
Religious Studies

Department of Psychology
Aging Studies
Psychology

Department of Theatre and Dance
Acting Performance
Dance
Design, Technology, and Management
Musical Theatre Performance
Theatre
Theatre Dramaturgy
Young Audiences

Department of Visual Arts
Art History
Ceramics
Digital Media
Drawing
Metalsmithing
Museum Studies
Painting
Photography
Printmaking
Sculpture

Certificates
American Studies
Audio Technology
Arts Entrepreneurship

College Degree Requirements- The 2015 A&S Core

Bachelor of Arts or Science Programs

Beginning fall 2015, new university and college general education curricula, the 2015 University Studies Program (USP) and the 2015 A&S Core, were implemented. Refer to the USP section of this *Catalog* for details regarding University Studies requirements.

Students who matriculate for the first time at UW or a Wyoming community college in fall 2015 or after are required to follow both the new USP and A&S Core curricula. Students transferring from a Wyoming community college with an Associate's degree, having completed the Wyoming Core between May 2013 and fall 2015, may continue to complete the 2003 USP and 2003 A&S Core requirements (if there has been no interruption in their enrollment for a year or more). Students who matriculated at UW or a Wyoming community college prior to fall 2015 and choose the 2015 USP must also complete the 2015 A&S Core requirements. For additional information please refer to the sections in this *Catalog* that describe the university graduation requirements, the 2015 University Studies Program, and the policies for re-enrolling at UW after an absence of a year or more.

I. College credit hour requirements

A. **Minimum total semester hours 120**
B. **Upper-division credit requirements (42).** Thirty of the 42 hours must be earned from UW. Courses must be taken for a letter grade unless offered for S/U only. This is an all-university requirement for all degree programs and may come from the courses that fulfill the USP, the A&S Core, the major, the minor, and electives.
C. **Major field of study (30-60).** In addition to attaining all credits required by the major, students are required to earn 60 credits outside the major. Credits in AS internship, independent study, or special topics courses (AS 2400, AS 2490, AS 4400, AS 4500, AS 4510, AS 4900, and AS 4975) may not be used to fulfill these outside the major requirements. At least 30 hours of C grade or better must be earned in the major subject (the major may require more). Courses in the major must be taken for a letter grade unless offered for S/U only.
D. **A&S Core requirements (6).** Courses must be taken for a letter grade unless offered for S/U only.

All other university and college regulations apply. See the "Graduation Requirements and Procedures" section of this *Catalog* for more information. Graduate level "Enrichment" courses do not count toward the requirements for a bachelor's degree.

II. 2015 A&S Core Curriculum

Graduates of the College of Arts and Sciences are expected to be liberally educated, to have the knowledge and skills to deal with the unexpected, and to see opportunities from multiple perspectives. To develop these abilities, the college faculty implemented the A&S Core.

Search in WyoWeb (find WyoRecords, then Register for Classes, then Browse Classes) to find upcoming courses meeting the following requirements:

1. **U.S. Diversity (ASD).** This requirement allows students to explore the complexity of cultural identities in the U.S. and interdependence of the cultures. Students will gain an understanding of the influences of categories such as race, class, ethnicity, gender, disability, sexual orientation, religion, and age on American behaviors, institutions, values, and beliefs.
2. **Global Awareness (ASG).** Because citizens ever more frequently encounter behaviors and practices based on beliefs, conditions, and assumptions different from their own, they need to understand the nature and function of culture. Our students should have an awareness of the multiple links that affect the living conditions and range of action of peoples of the world, including international systems of commerce, art, science, technology, politics, communication, belief, and justice, among others.

College Degree Requirements Prior to Fall 2015 for Continuing and Reenrolling Students

A&S Core requirements for a student continuing a degree program in effect at the time of matriculation at UW are found in the relevant previous *Catalog*. Contact the A&S Advising Center, Ross 6, 766-4013, asadvise@uwyo.edu.

Students who re-enter the university after an absence of a year or more should refer to other sections of this Catalog for university policies and procedures. Unless approved otherwise, reenrolling students, after a year's absence, are required to follow the University Studies and A&S Core requirements in effect the semester of their re-enrollment. However, all majors in A&S who have yet to complete the A&S Core, regardless of their initial enrollment, must refer to the current list of approved courses.

Lists of courses that satisfy A&S college core requirements are available on the Web at www.uwyo.edu/as. Assistance with learning to Browse classes and to understand the Degree Evaluation can be obtained from the A&S Advising Center, Ross 6, 766-4013, asadvising@uwyo.edu.

Departments and programs in the College of Arts and Sciences may require reenrolling students to complete requirements in the major that meet the current expectations of the discipline.

Transfer Students and Acceptance of Transfer Credit

The College of Arts and Sciences and its Departments reserve the right to grant transfer credit toward the bachelor's degree only for those courses where a grade of C or better was earned. Students transferring credits from a university or college outside Wyoming with questions about how courses taken elsewhere fulfill the A&S Core may contact the A&S Advising Center, Ross 6, 766-4013, asadvise@uwyo.edu.

Courses Taken for S/U Credit

Students may include up to 20 semester credit hours in free electives with a grade of S as part of the total hours required by the College of Arts and Sciences for graduation. However, no S/U hours may be used to satisfy university and college core general education requirements or major requirements, including the required 42 upper-division credit hours unless the course is offered for S/U grading only.

Students registering in courses for S/U grades are subject to all general regulations.

Concurrent Majors

Students may pursue two or more majors simultaneously. With careful planning, A&S students may be able to use all or most of the free elective hours for requirements in the other majors. Refer also to the section, "Graduation Requirements and Procedures" in this *Catalog*.

The A&S Core must be met only once by students whose primary major is in the College of Arts and Sciences. Students whose degree programs are in other UW colleges are welcome to earn a concurrent major in A&S. These students do not have to meet the A&S Core requirements. The student earns one degree with one diploma.

Students pursuing a concurrent major must contact both departments involved for assignments to advisors.

Dual Degrees

Students may simultaneously pursue degrees in the same or more than one UW college. In addition to requirements described in the section "Graduation Requirements and Procedures" in this *Catalog*, students in another UW college who wish to earn a degree from A&S must also complete the A&S Core. A&S students working on dual degrees in the A&S College need to meet the A&S Core just once. A diploma is awarded for each degree.

Each additional degree requires 30 more credit hours added to the 120 credits to the primary degree. Of these 30 credits, 12 must be at the 3XXX-4XXX levels.

Second Bachelor's Degrees

For those students whose **first degree is from another university** and who seek a second bachelor's degree from the College of Arts and Sciences, the minimum requirements include:

- 30 semester hours earned from the University of Wyoming, 12 of which must be upper division (3XXX-4XXX level) or graduate level (credit by examination does not count as UW hours).
- Completion of the U.S. and Wyoming Constitutions requirement (V courses in the University Studies Program course list in this *Catalog*).
- *If the first degree is from an institution where English is not the predominant language*, successful completion of the COM1 and COM2 requirements of the University Studies Program is required.
- Students must also meet the 2015 A&S Core requirements.

For students whose **first degree is from UW**:

- The additional required 30 hours (12 of these at the 3XXX-4XXX) are added to the degree requiring the least number of hours. For example, for a first degree, A&S requires 120 hours. Thus, the total credits a UW student would have to complete for the second bachelor's degree is a minimum of 150 credits. Since the University requires a total of 42 upper division hours for a degree, for the second degree from A&S, a UW student would need to earn a total of 54 hours at the 3XXX-4XXX level. For more information, please see the Second Bachelor's Degree entry in the section, "Graduation Requirements and Procedures" in this *Catalog*.
- Students whose **first degree is from another UW college** must meet the 2015 A&S Core requirements.
- In situations in which a student is subsequently required to take coursework from another collegiate institution to fulfill major and overall hour requirements for a second degree from the university, the student's department can ask the Office of the Registrar to load selected courses into the student's record.

Concurrent Major in Environment and Natural Resources

A student majoring in any A&S department/program may earn a double major by completing the courses required for the Environment and Natural Resource (ENR) program in addition to the requirements in their A&S major and the College A&S Core. See the Haub School of ENR Web site, http://www.uwyo.edu/enr for detailed information or contact the School at (307) 766-5080.

Preprofessional Studies

The College of Arts and Sciences prepares students to enter professional schools through preprofessional programs of study described below.

Prelaw Study. Students usually need a bachelor's degree prior to beginning the study of law. There is no prescribed course of undergraduate study and no restrictions as to the field in which the degree is earned. However, to prepare for this competitive profession, prelaw students are advised to select courses that help to develop those talents and skills essential to the study and practice of law. Logical and critical thinking, conflict evaluation/resolution and effective verbal/nonverbal communication skills are essential. Additionally, students should understand the political, economic, social/cultural institutions, and values that characterize human society. Rigorous courses in any discipline increase abilities in these areas. Pertinent to the prelaw major, courses in the broad liberal arts, including the sciences, social sciences, fine arts, and humanities, increase understanding of the public's diverse interests and backgrounds.

Prelaw students do not have to declare a major at the time of first enrollment if they wish to explore options. Students who are undeclared in the College of Arts & Sciences are assigned advisors in the Advising, Career, and Exploratory Studies office until they decide upon a degree program. Please note that a prelaw minor is available.

In addition to consulting their major advisor, prelaw students may contact the designated UW prelaw advisor for assistance in developing a program of study, for career counseling, and for guidance in applying to law schools. Contact the A&S Advising Center, Ross 6, 307-766-4013, asadvise@uwyo.edu for information.

Detailed information about applying to law schools, the Law School Admissions Test (LSAT) and preparation materials, and links to other websites are at www.LSAC.org.

Library Preprofessional Study. Librarians are information professionals who research, organize, and classify materials so the public can access information. Not only do they work with printed materials, but all the technological advances in digital media such as electronic databases and eBooks. Some librarians focus on teaching the public, scholars, and students how to access and use these materials, while others concentrate on collecting and maintaining these diverse resources. Librarianship offers many career opportunities to people of different academic backgrounds, interests, and talents. Most public, academic, and special libraries require librarians to have a Master's Degree in Library Science (MLS).

The degree programs and minors in the College of Arts and Sciences offer the variety of academic preparation expected by accredited library schools in the country. Most graduate schools in library science require a successful applicant to have a Bachelor's degree, a good undergraduate record, and a reading knowledge of a foreign language for admission. The best undergraduate preparation includes a wide range of courses in the sciences, social sciences, and humanities along with a strong concentration in one subject area. The choice of a major will be determined by the student's academic interest and professional objective. The general education that the University Studies and the A&S Core require provide the well-rounded background graduate schools expect of MLS candidates.

Additional information about library schools, their requirements, and programs as well as career opportunities may be obtained from the reference desk at Coe Library and the Center for Advising and Career Services. The U.S. Bureau of Labor Statistics "Occupational Outlook Handbook" at www.bls.gov/ooh/ has detailed descriptions of the varied work of librarians, working conditions, employment outlook, and sources for additional information.

Pre-Health Study. Students in several A&S majors may be working toward the following careers: athletic training, chiropractic, dentistry, medicine, occupational therapy, optometry, physical therapy, physician assistant, or public health. These professional schools are favorably impressed by a broad educational background, including a substantial

number of non-science and science courses; therefore, students are well advised to look beyond the minimum requirements.

Students may select any major in which they are interested to prepare for such careers. In addition to completing all university, college and departmental requirements, students must include in their curriculum the basic professional school requirements, including courses in biology, chemistry, math, and physics. Professional schools have other specific requirements and students should seek information about any additional recommendations from the professional schools in which they are interested. We strongly suggest contacting the Pre-Health Advising office [College of Health Sciences, 110 Health Sciences, (307) 766-3878, or hsadvise@uwyo.edu] website: www.uwyo.edu/preprof/.

Psychology is a common major in the College of A&S for these preprofessional programs. However, there are pre-health students in programs as diverse as Anthropology and Theatre & Dance. Students need not declare a major immediately upon first enrollment. Advisors in individual departments can discuss options or, if students wish to remain undeclared, they are advised in either the UW Advising, Career, and Exploratory Studies office or the Health Sciences Advising office.

The pre-health advisors in the College of Health Sciences have current information regarding professional school admission requirements, entrance examinations, programs in Western Interstate Commission on Higher Education (WICHE), the Wyoming Medical Contract Program WWAMI (affiliated with the University of Washington School of Medicine) and financial assistance for professional education. The website, http://www.uwyo.edu/preprof/ includes additional information.

Internships

Many departments in the College of Arts and Sciences offer internships for academic credit, and some provide monetary compensation. Academic internships provide practical, hands-on experience in a professional job setting as a complement to classroom instruction. An internship can provide students with both insight and preparation for future jobs. All internships require a strong background in writing, organizational ability, and analytic skills. Junior or senior standing is recommended.

The School of Culture, Gender, and Social Justice

Ross Hall, Room 224

(307) 766-3122

Web site: **www.uwyo.edu/scgsj**

School Head: **Stephen Dillon**

SCGSJ Faculty

Professors:

ULRICH ADELT, M.A. University of Hamburg, Germany 2000; Ph.D. University of Iowa 2007; Associate Professor of American Studies 2015, 2009.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Professor of Law 2008, 2002.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

FRIEDA E. KNOBLOCH, American Studies; School of Culture, Gender and Social Justice; Creative Writing

TRISHA MARTINEZ, B.A. University of Wyoming 2011; M.A. University of New Mexico 2014; Ph.D. University of New Mexico 2019.

TRACEY OWENS PATTON, B.A. Colorado State University 1993; M.A. 1996; Ph.D. University of Utah 2000; Professor of Communication and Journalism 2012, 2003.

MARGARITA PIGNATARO, B.A. Florida State University; M.A. Arizona State University, Ph.D.; Visiting Assistant Professor of Latina/o Studies 2018.

Associate Professor:

LILIA SOTO, B.A. University of California - San Diego 2000; M.A. University of California - Berkeley 2003; Ph.D. 2008; Associate Professor of American Studies and Latina/o Studies 2017, 2010.

SAMANTHA L. VANDERMEADE, B.A., Appalachian State University, 2009; M.A., North Carolina State University, 2015; Ph.D., Arizona State University, 2020; Visiting Assistant Professor of Gender and Women's Studies 2020.

Assistant Professor:

JESSICA F. NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of Native American and Indigenous Studies 2019.

Associate Lecturer:

ALISON QUAGGIN HARKIN, B.A. Trinity College at the University of Toronto 1981; M.A. Athabasca University 2010; Assistant Lecturer of Gender and Women's Studies 2019.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 2002.

ROBYN LOPEZ, A.A. Central Wyoming College 2004; B.A. University of Wyoming 2007; M.A. University of Hawai'i at Mānoa; Assistant Lecturer of Native American and Indigenous Studies 2019.

Lecturers:

JASCHA HERDT, B.A. University of Wyoming; M.A. 2011.

ERIC D. JOHNSON, B.A. University of Alabama 2003; MA, University of Iowa 2009; Ph.D 2021.

CHAD D. ROBINSON, B.S. Northewestern University 1992; MA, City University of New York 2006; M.S. Mercy College 2008.

Senior Research Scientist:

ANDREA GRAHAM, American Studies; School of Culture, Gender and Social Justice

Professors Emeriti:

Cathy Connoly, Colleen Denney, John Dorst, Janice Harris, Susan McKay, Eric Sandeen

Adjunct Faculty:

(see department section following name for academic credentials)

African American and Diaspora Studies

Undergraduate Studies

The population of Black America has nearly doubled in Wyoming since the year 2000. As the population becomes more diverse it is important to provide students with a background in multicultural relations so that they are prepared for the global workforce. We intend to provide students with the necessary knowledge to prepare them to participate in an increasingly interconnected world. Therefore, African American and Diaspora Studies offers a bachelor of arts (B.A.) and an undergraduate minor in African American and Diaspora Studies.

Students may access a copy of the undergraduate major and minor check sheets at www.uwyo.edu/aads/major-minor/index.html.

At present, no program for graduate degrees in African American and Diaspora Studies is offered; however, some courses may be counted at the graduate level.

American Studies

American Studies explores American cultural experience past and present, through a wide range of approaches to American lives, places, arts, knowledges, communities, institutions, histories, and ideas. American Studies is an integrative field that comes from and adds to the context of our cultural lives in the U.S. and the U.S. in the world.

American Studies frames present concerns with engagement with the past; expects us to engage people's experiences in the context of a diversity of experiences; and invites us to understand our own commitments and interests as valuable contributors to American cultural understanding. American Studies as a field depends on and adds to insights of scholars, artists, and scientists from virtually any field of expertise.

The American Studies program offers undergraduate B.A. and graduate M.A. degrees in American Studies, as well as courses of general interest to students in any degree.

Our program places special emphasis on studying American cultures through field experiences and internships: students apply academic knowledge and develop professional skills in community and non-profit organizations, historic preservation efforts and organizations, historic sites, museums and collections, among many possibilities. Every internship is developed in close consultation between the students and our Internship Coordinator, and frequently stems from a student's general idea about where or with whom they'd like to work, in Laramie or Wyoming, in other parts of the U.S., or sometimes abroad. Our program also highlights international perspectives, as well as the transnational context of American impacts and experiences, in course work and exchanges available to American Studies students.

American Studies puts people and their plans together building career goals in K-12 education, law, or business, work in community organizations and public institutions, or further graduate-level study.

Native American and Indigenous Studies

The Native American and Indigenous Studies offers an academic major at the undergraduate level and a minor at both the undergraduate and graduate level. This interdepartmental course of study examines Native North American cultural and social life, as well as Indigenous cultural and social life globally, including economic, political, and educational systems. Historical and contemporary perspectives of American Indian and global Indigenous experiences are included in this program.

Students may choose a NAIS studies minor to complement a major field of study. Related disciplines include American studies, anthropology, art, ethnic studies, geography, history, law, music, philosophy, political science, and sociology. A minor in Native American and Indigenous Studies provides excellent preparation for teachers, researchers, social workers, healthcare providers, resource managers, economic developers, and legal practitioners.

Gender and Women's Studies

The Gender and Women's Studies Program offers an interdisciplinary course of study that examines the relevance of sex, gender and sexuality in history, societies, and cultures. Students may earn a major, minor, or graduate minor in Gender and Women's Studies, or a minor or graduate minor in Queer Studies.

Program Learning Objectives

Students graduating with a degree in Gender and Women's Studies will have skills to apply in a variety of settings indicated by their ability to:

- Engage in intersectional, interdisciplinary feminist analysis.
- Analyze socio-historical and contemporary power dynamics underpinning group relations, social institutions, and systems of representation.
- Situate their analyses within various place-based contexts, including the rural, local, community, transnational, and global.
- Understand and articulate the history, strategies, and goals of interconnected movements for social justice.

- Demonstrate mastery of critical thinking skills necessary to succeed in diverse, 21st century work forces and communities.

NOTE: Gender & Women's Studies recently changed all course prefixes to GWST (from WMST). All former WMST courses will count toward Gender & Women's Studies degree programs.

Latina/o Studies

Learning Outcomes

Latina/o Studies courses emphasize perspectives that are historical and contemporary, theoretical and practical, as well as critical and aesthetic. These perspectives help to develop an understanding of oppression and resistance, at the individual, institutional, and ideological levels.

Upon completion of the University of Wyoming Latina/o Studies minor curriculum, students will have an awareness and appreciation for the Latina/o experience. Particularly as the Latina/o experience is expressed in the following concepts and principles of organic insight, relational awareness, historical perspective, power for social change, intersectionality, and aesthetics.

1. *Organic Insight* - The development of a contextual framework for understanding one's own and others' experiences in relation to the Latina/o experience.
2. *Relational Awareness* - The development of a theoretical framework for understanding how institutional social structures impact individuals, families, and communities, and in turn, how individuals, families, and communities impact social structures through resistance, social agency, and change.
3. *Historical Perspective* - The development of a critical historical viewpoint for understanding how struggles around social, economic, and political forces have shaped the traditional and contemporary Latina/o Diaspora.
4. *Power for Social Change* - The development of a critical consciousness, which is necessary for a social praxis that combats oppressive racist ideologies and social structures that perpetuate individual and institutional inequalities.
5. *Intersectionality* - Gaining an awareness of the intersection of race, ethnicity, class, gender, and sexual orientation as it plays out organically, relationally, historically, and politically.
6. *Latina/o Aesthetics* - The development of an appreciation and awareness of the aesthetics evident in Latina/o art, music, theatre, literature, and other artistic expressive forms and styles.

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. Two of those courses (6 hours) must include the required foundation courses, and the remaining courses (12 hours) can be selected from the other areas of studies listed below.

Major

African American and Diaspora Studies, B.A.

African American and Diaspora Studies (AADS) offers undergraduates an opportunity to engage in an interdisciplinary examination of the history, culture, and life of African Americans and the African diaspora from ancient times to the present day.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 creits)

Major Requirements

The B.A. in African American and Diaspora Studies consists of 35 credit hours:

Core Courses

15 credit hours of core course requirements:

- AAST 1000 - Introduction to African American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- AAST 2360 - African American History Credits: 3
- AAST 3130 - Global Impact of African Cultures Credits: 3
- AAST 4975 - Independent Research Credits: 1-3

Lower Division Course

3 or 6 credit hours of a lower division (1000- or 2000- level) AAST course, excluding core courses. Chose one OR two of the following:

- AAST 1030 - Social Justice in the 21st Century Credits: 3
  or

- AAST 1101 - First-Year Seminar Credits: 3
  or
- AAST 2350 - Introduction to African American Literature Credits: 3
  or
- AAST 2360 - African American History Credits: 3
  or
- AAST 2370 - Blues and African American Lit Credits: 3
  or
- AAST 2450 - Traditional African Religion Credits: 3
  or
- AAST 2490 - Topics: Credits: 1-3 or 3

Upper Division Courses

6 or 9 credit hours of upper division (3000- or 4000-level) AAST courses. Choose two OR three of the following:

- AAST 3000 - African American Studies in Music Credits: 3
  or
- AAST 3010 - The African American Aesthetic Credits: 3
  or
- AAST 3130 - Global Impact of African Cultures Credits: 3
  or
- AAST 3260 - African Spirits in the New World Credits: 3
  or
- AAST 3670 - African Diaspora Credits: 3
  or
- AAST 3933 - African Philosophy Credits: 3
  or
- AAST 4000 - Black Freedom Movement, AAST 1955- Present Credits: 3
  or
- AAST 4020 - The Black West Credits: 3
  or
- AAST 4050 - Development, Africa, and Culture Credits: 3
  or
- AAST 4100 - African American Religious Culture Credits: 3
  or
- AAST 4160 - African American Rhetoric Credits: 3
  or
- AAST 4233 - Race, Gender, Ethnicity in the Media Credits: 3
  or
- AAST 4250 - The Harlem Renaissance Credits: 3
  or
- AAST 4260 - Rhetoric and Social Justice Credits: 3
  or
- AAST 4450 - African American Novel Credits: 3
  or
- AAST 4455 - Slavery and Freedom Credits: 1-4
  or
- AAST 4675 - USWomen of Color Credits: 3
  or

- AAST 4970 - Internship in AAST Credits: 1-12
  or
- AAST 4975 - Independent Research Credits: 1-3
  or
- AAST 4990 - Topics: Credits: 3

Foreign Language

8 credit hours of a single foreign language. The courses below list some, but not all, possible options:

- ARBC 1010 - First Year Arabic I Credits: 4
  and
- ARBC 1020 - First Year Arabic II Credits: 4
  or
- FREN 1010 - First Year French I Credits: 4
  and
- FREN 1020 - First Year French II Credits: 4
  or
- GERM 1010 - First Year German I Credits: 4
  and
- GERM 1020 - First Year German II Credits: 4
  or
- JAPN 1010 - First Year Japanese I Credits: 4
  and
- JAPN 1020 - First Year Japanese II Credits: 4
  or
- LATN 1010 - First Year Latin I Credits: 4
  and
- LATN 1020 - First Year Latin II Credits: 4
  or
- SPAN 1010 - First Year Spanish I Credits: 4
  and
- SPAN 1020 - First Year Spanish II Credits: 4

Additional Requirements

Grade Requirements

AAST classes applied to AAST degrees must be passed with a grade of C or better.

Additional Information

In order to provide a broader range of relevant and enriching courses, in any given year the program in AAST offers topics courses and courses cross-listed with other majors and departments.

American Studies, B.A.

Explore cultural experiences past and present through interdisciplinary study of American lives, communities, and ideas. Writing, critical thinking, and internship opportunities prepare you for careers in education, law, business, community non-profits, public institutions, or graduate study. Flexible 2nd major for any field and for transfer students.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

College of Arts and Sciences Core

D - Diversity Credits: 3

G - Global Credits: 3

Curriculum

Through the following curriculum, students develop individual programs of study, with their advisers, to understand and engage American cultures.

Students pursuing Program Honors should also write an undergraduate thesis. Contact the Program Director for more details.

Foundation (12 credit hours)

- AMST 2010 - Introduction to American Studies (3 credit hours)
- One course at the 1000- or 2000-level in an interdisciplinary field, including American History, or from departments and programs such as AADS, ENR, INST, GWST, LTST, NAIS, RELI, or appropriate courses transferred from other institutions, to be named in the program of study in consultation with an American Studies advisor. (3 credit hours)
- Two courses at any level outside AMST, from programs in The School of Culture, Gender, and Social Justice or appropriate substitutes in consultation with an American Studies advisor. (6 credit hours)

Concentration (27 credit hours)

Core (9 credit hours)

Each student must take three AMST courses at the 3000-4000 level, excluding the senior seminar. These seminars are designed to maintain an interdisciplinary view of American culture and to foster an American Studies community. (9 credit hours)

Theme (18 credit hours)

An American Studies theme is devised, in consultation with the student's adviser. Typical themes include: American diversity, environment and society, material culture and everyday life, visual culture and media, American cultural history, American institutions and public culture, the United States in international perspective. The theme must include a minimum of 6 credit hours and a maximum of 9 credit hours in a single discipline. Up to 3 credits can be granted for courses at the 1000-2000 level. (18 credit hours)

Capstone (6 Credits)

As part of the 6 credit hours of senior capstone requirements, each student must complete 3 credit hours of Senior Seminar. The additional 3 credit hours can be through either Independent Study or Internship.

- AMST 4985 - Senior Seminar Credits: 3
  AND
- AMST 4010 - Independent Study Credits: 1-3
  OR
- AMST 4970 - Internship Credits: 1-3

Additional Information

Undergraduate Major

The American Studies B.A. frames and develops each student's individual interests, and allows students to include courses from any program and department that sustain a student's engagement with their particular emphasis. Individual programs of study are as varied as our students.

We value each student as a person, and understand that an education is much more than a list of courses. Our advising is central in supporting each student's path and success through the major and beyond the degree.

Examples of concentrations that draw on courses outside American Studies - interests which we then integrate in our independent studies, internships, and the senior seminar - include sports studies, popular music history, comparative ethnic studies, marketing, military history, sustainability, disability advocacy, museum studies, philosophy of science, environmental studies, public health and social justice, and the U.S. in international perspectives. Each student develops a concentration of study with their American Studies advisor with ample room to combine courses and interests into a coherent undergraduate education.

The American Studies B.A. can be an attractive second major for students in any UW degree program where cultural context enriches and expands work in their professional or scholarly field. The flexible nature of our B.A. allows us to work effectively with students changing majors at any point in their undergraduate experience as well as transfer students.

Program Learning Outcomes

Students graduating with a B.A. in American Studies integrate study from several fields with their study in American Studies courses, in individual programs of study. The American Studies B.A. prepares students to enter graduate and professional programs, enter education certification programs, and work in community organizations and other public professional settings. Coursework in American Studies prepares students to:

- Interpret American experiences and creative expressions by applying appropriate approaches to words, narratives, images, material objects, communities, built environments, cross-cultural comparison, continuities and discontinuities with the past in a range of American cultural settings.
- Understand the processes of diversity experience including their own, through study of identity formation, performance of identity, stereotyping, contact, memory, and national identity.
- Demonstrate critical analysis, interpretation, or insight, through effective communication primarily in writing but also in speaking (when appropriate, performance or display may embody these as well), as demonstrated in analytically coherent interpretive writing, authoritative, informed oral presentation, and well-documented, visually effective performance or display (where appropriate).
- Apply American Studies methods field-based courses and/or internships, through use of Studies approaches and competencies in non-classroom settings, as demonstrated in field course or internship evaluations and students' final reports.

Internship

The internship experience is essential for students specializing in public sector American studies. The American Studies program has an active program of scholarship-supported internships that can place students in work environments in Wyoming, other parts of the U.S., or in selected foreign countries.

Language

Because American Studies is both an international field with scholars all over the world, and the U.S. has transnational significance, **we strongly encourage students to take 2 years of language study** to achieve meaningful access to skills as readers, scholars, and travelers, and consider participating in an international exchange. Some languages currently in demand by American Studies students include Spanish, Arabic, and Japanese.

Gender and Women's Studies, B.A.

Provides foundational knowledge in historical and contemporary issues related to sex, gender, and sexuality. Upon completion, students will be able to apply intersectional feminist and gender theories to interdisciplinary research and practice.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 credits)

Requirements

The GWST major requires 30 credit hours of GWST courses, including 9 credits of core courses and 21 credits of elective courses.

Please note, curriculum requirements reflect updates effective Fall 2022, so any courses completed under the previous requirements will still count. Details are listed below.

Introductory Core: 3 Credits

Complete ONE course from the following:

- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3
  Note: If taken prior to Fall 2022, GWST 1900, Women & Leadership can satisfy this requirement.

Interdisciplinary Theory Core: 6 Credits

Complete TWO courses from the following:

  Core course required for all majors:
- GWST 3600 - Gender, Race, Sex & Social Systems Credits: 3
- Note: If taken prior to Fall 2022, these courses may satisfy this requirement: GWST 3710, Gender & Humanities; GWST 2500, Gender & Society
  Choose ONE of the following:
- GWST 4700 - Feminist Theories Credits: 3
- GWST 4430 - Queer Theory Credits: 3

Electives: 21 Credits

Complete SEVEN courses or 21 credit hours from among the following:

- GWST 1030 - Social Justice in the 21st Century Credits: 3

- GWST 2070 - Gender and Religion Credits: 3

- GWST 2450 - Topics in Gender & Women's Studies Credits: 1-4
- GWST 2050 - Women and Leadership Credits: 3
- GWST 2389 - History of Women in the American West Credits: 3
- GWST 2400 - Gender and Disability Credits: 3

- GWST 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3200 - Perspectives in Chicana Studies Credits: 3
- GWST 3300 - Psychology of Gender Credits: 3
- GWST 3400 - Popular Music and Sexualities Credits: 3
- GWST 3710 - Gender and Humanities Credits: 3
- GWST 3800 - Chicanas/os in Contemporary Society Credits: 3

- GWST 4065 - Black American Rhetorics Credits:
- GWST 4066 - Rhetorics of Social Justice Credits:
- GWST 4067 - Race, Gender, Media, and Rhetoric Credits: 3
- GWST 4200 - Gender and Race in the Economy Credits: 3
- GWST 4300 - The Politics of Sexuality Credits: 3
- GWST 4233 - Race, Gender, Ethnicity in the Media Credits: 3
- GWST 4335 - Women and Islam Credits: 3
- GWST 4360 - American Indian Women Credits: 3
- GWST 4440 - Queer Life Through Memoir Credits: 3
- GWST 4450 - Ecofeminism Credits: 3
- GWST 4500 - Topics in Gender & Women's Studies Credits: 1-4
- GWST 4540 - Gender and Crime Credits: 3
- GWST 4610 - Gender, Race & Rural Spaces Credits:
- GWST 4630 - Gender and Politics Credits: 3
- GWST 4650 - Women, Gender & Migration Credits: 3
- GWST 4675 - USWomen of Color Credits: 3
- GWST 4780 - History of Women Artists Credits: 3
- GWST 4960 - Women's Bodies, Women's Minds Credits: 3
- GWST 4965 - Senior Honors Project Credits: 3
- GWST 4970 - Internship Credits: 3
- GWST 4975 - Independent Studies Credits: 1-4

Grading & Honors

Grading Requirements

All GWST core courses and at least 15 credit hous of GWST electives must be completed with a "C" or better.

To be eligible for internships, students must have a minimum GPA of 3.300.

Honors in Gender & Women's Studies

Honors in Gender and Women's Studies recognizes academically ambitious students who have excelled in their undergraduate careers, and who are ready for graduate school and/or employment in the public or private spheres. Requirements include an overall minimum GPA of 3.500 and the completion of GWST 4965, Senior Honors Project.

Honors in GWST also requires the completion of 3 semesters of foreign language or sign language, or a concentration in quantitative analysis and research methods, including statistics.

Students in UW Honors Program, McNair Scholars Program, or other departments that require completion of an independent research project may dovetail their honors work in GWST with those programs.

Additional Information

Students in GWST are encouraged to work with a faculty advisor to develop an individualized plan of study. Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), for more information.

Native American and Indigenous Studies, B.A.

The curriculum for the 30-hour Bachelor of Arts degree in Native American and Indigenous Studies will encourage students to understand and appreciate the roles of history, culture, and politics in the development of tribal world views.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 credits)

Major Requirements

Foundation Courses

Foundation Classes 9 Hours Required. Choose from the following:

- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- NAIS 2210 - North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3

NAIS & Crosslisted Courses

Choose seven (7), for a total of 21 credit hours, courses from the following:

- NAIS 1010 - Beginning Indigenous Language Credits: 4
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 2010 - Intermediate Indigenous Language Credits: 4
- NAIS 2060 - Topics Credits: 1-4
- NAIS 2340 - Native American Culture and Literature Credits: 3
- NAIS 2345 - American Indians in Hollywood Film Credits: 3
- NAIS 3000 - Plains Culture and History Credits: 3
- NAIS 3010 - Proficient Indigenous Language Credits: 4
- NAIS 3100 - Tribal Literatures of the Great Plains Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 4000 - Indians of Wyoming Credits: 3
- NAIS 4010 - Advanced Indigenous Language Credits: 4
- NAIS 4020 - Internship Credits: 1-12
- NAIS 4100 - Tribal Government Credits: 3
- NAIS 4110 - Educational Foundations in American Indian Education Credits: 3
- NAIS 4200 - Indigenous Communities Abroad: International Travel Credits: 4
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- NAIS 4460 - American Indian Literature Credits: 3
- NAIS 4466 - American Indian Ethnohistory Credits: 3
- NAIS 4740 - Native American Languages and Cultures Credits: 3
- NAIS 4975 - Independent Study Credits: 1-4
- NAIS 4990 - Special Topics Credits: 1-4

Additional Requirements

Grade Requirements

NAIS classes applied to NAIS degrees must be passed with a grade of C or better. This policy applies to NAIS classes completed fall semester 2012 and beyond.

Additional Information

Cross-Listing & NAIS Courses

In order to provide a broader range of relevant and enriching courses, in any given year, the program in Native American and Indigenous Studies offers topics courses (NAIS 2060 or NAIS 4990) that are frequently cross-listed with other majors and departments. Any such courses may be counted towards a student's 21 hours of required courses beyond the foundational courses.

If a student chooses to take more than one topics course in the same semester, it may require an override within the registration system. If you seek to enroll in a topics course and have trouble doing so, please contact scgsj@uwyo.edu.

Declaring a NAIS Major/Minor

Please complete and submit the "Change of Advisor, Major, Minor, Option/Concentration, College, and or Graduate Status" form available on the Office of the Registrar's website.

Minor

African American and Diaspora Studies Minor

Thematic tracks in the major or minor are optional:

- History
- Culture & Aesthetics
- Politics & Law
- Rhetoric & English
- Religion & Philosophy
- Media Studies

Minor Requirements

The minor in African American and Diaspora Studies consists of 21 credit hours:

- 9 credit hours of core course requirements
- 9 credit hours of electives (excludes core courses)
- 3 credit hours of senior thesis seminar (AAST 4975, Capstone)

American Studies Minor

Students may minor in American Studies through a program of 24 credit hours of study, with credit hours evenly distributed between lower and upper division courses, which include at least 3 courses in American Studies (with the AMST course prefix), at any level (except AMST 1101), in consultation with and depending on approval by a faculty advisor in American Studies. Coursework for the minor may be matched with a student's major requirements in related disciplines and fields.

Gender and Women's Studies Graduate Minor

Provides advanced, interdisciplinary, intersectional training in feminist and gender theory and praxis. This minor offers crucial knowledge and skills to students pursuing a wide range of graduate degrees and professional paths.

Requirements

A total of 12 credit hours are required to complete the Graduate Minor in GWST. This includes the following:

- GWST 5710 - Feminist Theoretical Perspectives Credits: 3 OR Approved Substitute
- An additional 9 credit hours of GWST electives, including 6 credits at the 5000-level.
- When practical, students should include a GWST faculty member on their thesis, dissertation or Plan B committees. Students in professional programs without a culminating research project can meet this requirement through alternative means.

Additional Information

Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), to discuss individual plans of study.

Gender and Women's Studies Minor

Provides foundational knowledge in historical and contemporary issues related to sex, gender, and sexuality. Upon completion, students will be able to apply intersectional feminist and gender theories to interdisciplinary research and practice.

Requirements

Students must complete 18 hours of GWST course work. Nine of the required hours must be 3000-level or above. At least 15 credit hours must be completed with a grade of "C" or better.

Core Course: 3 Credits

Complete at least ONE of the following core courses.

Note: some of these courses have prerequisites, so taking a lower and upper level course from this list is recommended, but not required:

- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3
- GWST 3600 - Gender, Race, Sex & Social Systems Credits: 3
- GWST 4700 - Feminist Theories Credits: 3
  Note: If taken prior to Fall 2022, these courses may also satisfy this requirement: GWST 3710, Gender & Humanities; GWST 2500, Gender & Society; GWST 1900, Women & Leadership.

Electives: 15 credit hours

The additional 15 credit hours can be selected from the complete slate of GWST electives, including those listed above.

Note: a minimum of 12 credit hours in the minor must be exclusive of hours earned in the student's major.

Additional Information

Students in the GWST minor and major are encouraged to work with a faculty advisor to develop an individualized plan of study. Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), for more information.

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. One of those courses (3 hours) must include the required foundation courses, and the remaining courses (15 hours) can be selected from the other areas of studies listed below.

Minor Requirements

3 Hours of Foundation Course

- LTST 1300 - Introduction to Latina/o Studies Credits: 3

3 Hours of History or Social Science

- LTST 2370 - Chicano History : Origins to 1900 Credits: 3
- LTST 2385 - Chicano History: 1900 to Present Credits: 3
- LTST 3800 - Chicanas/os in Contemporary Society Credits: 3

3 Hours of Culture, Arts, and Humanities

- LTST 2360 - Mexican American Literature Credits: 3
- LTST 3560 - Chicano Community Organizations Credits: 3
- LTST 4100 - U.S. Latina/o Theater Credits: 3
- LTST 4470 - Studies in Chicano Folklore Credits: 3

3 Hours of Gender, Race, Class, and Sexuality

- LTST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 3200 - Perspectives in Chicana Studies Credits: 3
- LTST 4650 - Women, Gender & Migration Credits: 3
- LTST 4675 - U.S. Women of Color Credits: 3

6 Hours of Electives

(or any courses listed above not yet taken)

- LTST 2060 - Special Topics in: Credits: 3
- LTST 3080 - Spanish Language in the USA Credits: 3
- LTST 4485 - USLatino Diaspora Credits: 3

- LTST 4496 - History of Mexico Credits: 3
- LTST 4975 - Independent Studies Credits: 1-3
- LTST 4990 - Topics in Chicano Studies Credits: 1-3

Native American and Indigenous Studies Graduate Minor

A graduate minor in Native American and Indigenous Studies is comprised of 12 hours with at least 6 hours at the 5000 level. It is expected that each graduate minor student and his/her graduate committee, at least one member of whom will be from NAIS, will determine the specific courses to be taken. It is recommended that one of the four classes selected be a 3 credit NAIS 5000 Independent Study. This class will provide a research experience in the discipline of Native American and Indigenous studies that may support a master's thesis or doctoral dissertation. The research expectation in NAIS can be satisfied by the 3 credit hour Independent Study and/or by the thesis or doctoral dissertation.

Students graduating with a graduate minor degree in Native American and Indigenous studies will be able to: 1) Make apparent in masters'-level research the interdisciplinary connections between Native American and Indigenous studies and the primary field of graduate study; 2) Integrate American Indian studies research methods with the research methods used in the primary field of graduate study; and 3) Demonstrate in writing the ability to understand a variety of subjects from a tribal perspective.

Native American and Indigenous Studies Minor

Students graduating with an undergraduate minor degree in NAIS will be able to: 1) Explain the concept of tribal sovereignty and how tribal sovereignty is both restricted and acknowledged by the federal trust relationship and by relationships with states; 2) Understand the development of modern tribal governments and their functions and importance in contemporary society; 3) Understand and appreciate the roles of history, culture, and politics in the development of tribal world views, world views that relate to modern life and contemporary issues of concern for Native American and Indigenous peoples; 4) Identify historical, cultural, and political diversity and significance in Native oral traditions and written literatures; 5) Recognize stereotypes about Native American and Indigenous peoples and explain why these stereotypes were created and why they are sustained in modern society; and 6) Understand from the perspective of American Indian peoples, historical experiences and contemporary issues in North America.

Minor Requirements

The minor in Native American and Indigenous Studies requires 18 credit hours. Twelve credit hours must come from the following courses, three credit hours must be in either NAIS 1001 or NAIS 1350.

- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- NAIS 2210 - North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 2340 - Native American Culture and Literature Credits: 3
- Plus six hours of NAIS elective courses

Queer Studies Graduate Minor

Immerses students in advanced theoretical, historical and contemporary issues related to sexuality. Upon completion, students will be able to analyze systemic exclusion/inclusion, conduct independent interdisciplinary analysis through a queer studies lens, and apply queer theory to practice.

Requirements

A graduate minor in Queer Studies requires the completion of 12 credit hours, including AMST 5430 - Queer Theory/ GWST 5430 - Queer Theory , a minimum of 6 hours at the 5000+ level, and a capstone experience or independent study. For committee-based degree programs with queer studies content, it is expected that the student will include one committee member from Queer Studies faculty.

Faculty Advisory

An interdisciplinary, independent Queer Studies committee advises the program on curriculum, scheduling andcoordination. A faculty advisor is assigned to the student on declaration of the minor.

The faculty advisory committee for the minor includes:

- Rachel Watson, Director Queer Studies, Chemistry
- Ulrich Adelt, American Studies, African American & Diaspora Studies
- Ruth Olga Bjorkenwall, Politics, Public Affairs & International Studies
- Christine Boggs, Ellbogen Center for Teaching & Learning
- Danielle Renee Cover, Law
- Michelle Jarman, Disability Studies, Gender & Women's Studies
- Barbara Ellen Logan, History
- Jamie Snyder, Criminal Justice & Sociology
- Jennifer Tabler, Criminal Justice & Sociology

Please contact the program director, Rachel Watson (RWatson@uwyo.edu), for more information.

Queer Studies Minor

Immerses students in theoretical, historical and contemporary issues related to sexuality. Upon completion, students will be able to analyze systemic exclusion/inclusion, conduct independent interdisciplinary analysis through a queer studies lens, and apply queer theory to practice.

Requirements

The Queer Studies minor requires the completion of 18 credit hours, including GWST 2000 - Introduction to LGBTQ/NS Studies and nine or more credits at the 3000-level or above. Each semester, students, in consultation with a queer studies advisor, will choose elective courses. A capstone project or internship is required but can be variable and determined in consultation with an advisor.

Faculty Advisory

An interdisciplinary, independent Queer Studies committee advises the program on curriculum, scheduling and coordination. A faculty advisor is assigned to the student on declaration of the minor.

The faculty advisory committee for the minor includes:

- Rachel Watson, Director Queer Studies, Chemistry
- Ulrich Adelt, American Studies, African American & Diaspora Studies

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- Barbara Ellen Logan, History
- Jamie Snyder, Criminal Justice & Sociology
- Jennifer Tabler, Criminal Justice & Sociology

Please contact the program director, Rachel Watson (RWatson@uwyo.edu), for more information.

Graduate

American Studies, M.A.

The American Studies M.A. is an interdisciplinary cultural studies professional development degree. M.A. graduates work in public settings, including historic preservation organizations, historic sites, museums, collections, and other non-profit organizations.

Information

Graduate Study

The American Studies M.A. is an interdisciplinary professional development degree in a committed learning community that builds on students' research interests, accomplishments, experiences, and career goals working with American cultural contexts past and present. After the M.A., our alums seek further professional specialization in law, education, writing, library and information science, and other fields; pursue Ph.D.'s in academic careers in American Studies and other scholarly areas including ethnic studies, cultural geography, literature, religious studies, anthropology, history, ethnomusicology, among others; and work professionally in public settings, including historic preservation organizations, historic sites, museums, collections, and other non-profit, community or governmental organizations.

The M.A. is a 2-year program for students enrolled full-time, culminating in a major research project, either a "Plan A" thesis, or a "Plan B" non-thesis portfolio of work. We work frequently with part-time M.A. students to accommodate other demands on students' time. We encourage the development of emergent, innovative formats and project types as valuable contributions to contemporary American studies practice, relevant to a student's professional development plans.

Because American Studies is an international field with scholars all over the world, and the U.S. has significant impacts transnationally, M.A. Students from outside the U.S. are a regular part of our M.A. cohort, and we encourage our M.A. students to consider semester exchanges abroad. The Program also supports American Studies M.A. student and faculty participation in the annual biennial international conferences.

All M.A. students complete at least 15 credit hours in American Studies courses: 2 required theory and methods courses in the Program (AMST 5500 and AMST 5510), and 3 graduate seminars in American Studies. The remainder of coursework - 12 credits for those completing a thesis, or 15 credits for those completing non-thesis portfolios - can be drawn from graduate-level coursework in any area of study. Most of our M.A. students complete 1-3 credit internships as part of their coursework, in public or organizational sites in Laramie, elsewhere in Wyoming or the U.S., and occasionally abroad as well. M.A. students' paths through their programs of study are as varied as our students.

Program Learning Outcomes

Students graduating with an M.A. in American Studies integrate their educational backgrounds, research and professional interests, and coursework at the M.A. level inside and outside American Studies, in individual programs of study, to professionally engage American cultural production and communities in preparation for professional work or advanced graduate study. Students earning the M.A. in American Studies, either completing a thesis or pursuing the non-thesis Plan B project, are prepared to:

- Interpret a variety of objects significant to the study of American cultures, including words, narratives, images, material objects, communities, built environments, identities, cross-cultural and/or international perspectives, continuities and discontinuities with the past in a range of cultural settings.
- Demonstrate professional competence in writing and speaking in error-free expository prose, authoritative oral presentation, insightful use of relevant source material reflecting critical reading skill, prose style commensurate with professional responsibility, and prose content commensurate with professional responsibility.
- Produce professional research for a well-defined community (scholarly, public, or an appropriate combination), by identifying and using primary sources, building approaches from a relevant matrix of secondary sources, and understanding scholarly traditions within the field of American Studies that supports, expands, and connects research to professional goals.
- Make effective plans for advanced graduate study or professional employment by developing competencies listed above, including the opportunity to complete appropriate internship or field course work in an area of the student's professional plans.

Program Specific Admission Requirements

Those interested in graduate study are encouraged to contact the American Studies Program (307-766-3898 or amst@uwyo.edu) for more information.

Applicants to the M.A. program do not have to have prior majors in American Studies. The American Studies program does not require the GRE in applications to our M.A. program.

The application deadline for fall enrollment is March 1. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. In addition to an application, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

1. Statement of Purpose

2. A significant writing sample (usually a seminar paper or, for those coming from technical fields, a major report) that demonstrates potential for graduate study

3. Three letters of recommendation that assess the student's academic and research abilities

3. Transcripts from all undergraduate institutions and graduate programs

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Financial Aid

The American Studies M.A. is generously supported by endowment funds that allow us to award significant financial aid to M.A. students enrolled full time, through teaching, research, or community organization assistantship placements, as well as scholarship support as appropriate for students' own M.A. research.

Program Specific Degree Requirements

Graduate student must successfully complete 30 hours (for Plan B non-thesis) or 31 hours (for Plan A thesis) of graduate credit including the following:

Required Courses

(3 credit hours) AMST 5500 with a grade of B or better

(3 credit hours) AMST 5510 with a grade of B or better

(9 credit hours) graduate (5000) level AMST courses

Additional Requirements

Plan A thesis:

(12 credit hours) of graduate (5000) level courses in any field

(4 credit hours) of AMST 5960 - Thesis Research

Completion of a Master's Thesis

OR

Plan B non-thesis:

(15 credit hours) of graduate (5000) level courses in any field

Completion of a non-thesis project

Completion of exam

Certificate

American Studies Certificate

The certificate program allows students to choose from undergraduate and graduate courses in American Studies, literature, geography, music, art, history, philosophy, sociology, folklore, anthropology, Native American and Indigenous studies, political science, environmental studies, and media studies.

The program encompasses two semesters of full time work: a total of at least 24 semester hours, or approximately 8 courses. Of these, 6 credit hours (2 courses) must be selected from the following list:

Requirements

- AMST 2010 - Introduction to American Studies Credits: 3
- Any AMST course at the 4000- or 5000-level Credits: 3
- An additional 18 hours (6 courses) are chosen in consultation with an American Studies faculty adviser. The final 3 credit hours, completed during the summer months, are devoted to an internship (AMST 4970) or field experience in American culture (AMST 4900).

Teachers of American Indian Children (TIAC) (Teaching) Endorsement/UW Certification

Through Distance Education, a Teachers of American Indian Children (TAIC) Endorsement / Graduate Certificate can be earned. This non-degree graduate program certifies that those who complete its five specialized courses possess the attitudes, knowledge, and competence necessary to effectively teach American Indian Children. Upon completion, students receive official recognition of their achievement on their transcripts and an official certificate. Visit the Distance Education Degrees and Programs Website www.uwyo.edu/distance/ for more information. All courses are cross-listed with NAIS and EDCI.

An interdepartmental Native American and Indigenous Studies Advisory Committee guides the program's development. The director advises students selecting the NAIS studies major or minor.

Complete information about the Native American and Indigenous Studies undergraduate major, undergraduate minor, and graduate minor is available in the NAIS Program office and on the program Website.

Department of Anthropology

106 George C. Frison Building,
(307) 766-5136
FAX: (307) 766-2473
Web site: www.uwyo.edu/anthropology
Department Chair: Melissa S. Murphy

Professors:

JAMES AHERN, B.A. Beloit College 1991; M.A. Northern Illinois University 1993; Ph.D. University of Michigan 1998; Professor of Anthropology 2014, 2000.

MARCEL KORNFELD, B.A. University of New Mexico 1974; M.A. University of Wyoming 1982; Ph.D. University of Massachusetts-Amherst 1994; Professor of Anthropology 2008, 1996.

MELISSA S. MURPHY, B.A. Haverford College 1994; Ph.D. University of Pennsylvania 2004; Professor of Anthropology 2021, 2008.

TODD SUROVELL, B.S. University of Wisconsin-Madison 1995; M.A. University of Arizona 1998; Ph.D. 2003; Professor of Anthropology 2015, 2003.

Associate Professors:

PAMELA INNES, B.A. Bryn Mawr College 1986; M.A. University of Oklahoma 1992; Ph.D. 1997; Associate Professor of Anthropology 2007, 2001.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Associate Professor of History and Anthropology 2021, 2014.

JASON TOOHEY, B.A. University of California Santa Barbara 1995; M.A. California State University Northridge 2000; Ph.D. University of California Santa Barbara 2009; Associate Professor of Anthropology 2017, 2011.

Assistant Professors:

ALLISON CAINE, B.A. Bates College, 2007; M.Sc. University of Edinburgh 2010; Ph.D. University of Michigan 2019; Assistant Professor of Anthropology 2022.

BRIANA DOERING, B.A. Barnard College, Columbia University, 2012; M.A. University of Michigan 2016; Ph.D. 2020, Assistant Professor of Anthropology 2020.

SEAN FIELD, B.A. Northern Colorado University 2015; M.A. University of Nebraska 2017; M.A. Notre Dame University 2019; Ph.D. Notre Dame University 2023; Assistant Professor School of Computing and Anthropology 2023.

RANDY HAAS, B.A. Northern Arizona 2001; M.A. Northern Arizona University 2003; Ph.D. University of Arizona 2014; Assistant Professor of Anthropology 2023.

LAUREN HAYES, B.A. Wake Forest University 2006; M.A. University of Arizona 2006; Ph.D. University of Arizona 2017; Assistant Professor of Anthropology 2023.

JESSICA NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of School of Culture, Gender, and Social Justice 2019.

NIKOLAS SWEET, B.A. Virginia Tech, 2005; M.A. University of Michigan 2014; Ph.D. 2019; Assistant Professor of Anthropology 2022.

Adjunct Faculty:

Adams, Budowle, Gardner, Janković, Karavanić, Kitchel, Lynch, Mackie, Miller, Olujić, Pelton, Peterson, Raguž, Rapson, Stadbauer, Todd, Walker, Wilkinson

Lecturers:

James Johnson

Professors Emeriti:

George W. Gill, Michael E. Harkin, Robert L Kelly, Mary Lou Larson, Lin A. Poyer, Charles A. Reher, Audrey C. Shalinsky

The department of Anthropology promotes the understanding of humankind from an integrated, holistic approach which examines past, present and future trends in cultural, biological and linguistic diversity and uniformity. Though the department serves undergraduate and graduate majors who will become professional anthropologists or will pursue other related careers, it also provides information to a large number of non-majors and to the larger community regarding cross-cultural issues. Furthermore, because of its commitment to the four field approach including biological anthropology, archaeology, cultural anthropology and linguistic anthropology, the department fosters among its

students an awareness of the interrelatedness of scientific concepts, methods and theories, and the humanistic foundation of scientific inquiry. The Department of Anthropology prepares its students both to understand the cultural resources of Wyoming and to participate as informed citizens in an increasingly complex global community.

Undergraduate Major

The Anthropology B.A. program has the following learning outcomes:

1. students demonstrate knowledge about the four fields of anthropology and their interrelationship,

2. students participate in a research experience and understand its process, and

3. students demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

In addition to university and college requirements listed in this Catalog, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. Specific requirements for a B.A. in anthropology are ANTH 1100, 1200, 1300, and 2000. Students must complete ANTH 3300 or ANTH 3310. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975. Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology). Courses that can be used to fulfill upper division cultural anthropology are ANTH 4023, 4300, 4310, 4320, 4325, 4330, 4340, 4350, 4380, 4020 (with instructor's consent). Courses that can be used to fulfill upper division linguistic anthropology are ANTH 4024, 4740, 4765, 4775, 4785, 4795, 4020 (with instructor's consent). Courses that can be used to fulfill upper division biological anthropology are ANTH 4022, 4210, 4215, 4220, 4230, 4255, 4260, 4020 (with instructor's consent). Courses that can be used to fulfill upper division archaeology are ANTH 3900, 4021, 4110, 4115, 4120, 4125, 4130, 4145, 4150, 4160, 4170, 4175, 4020 (with instructor's consent), or six credits of archaeological field school (ANTH 4140 or 5180). It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

At the completion of the Bachelor of Arts degree in Anthropology, students will be able to demonstrate knowledge about the four subfields of anthropology and their interrelationships; they will have participated in a research experience and understand its process; and, they will demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

Undergraduate Minors

The Anthropology undergraduate minor has the following learning outcomes:

1. students learn sufficient subfield information to complement a variety of disciplines,

2. students learn basic methods of the discipline, and

3. students learn basic theories/ types of subfield explanation.

The minor for non-anthropology majors requires two of the introductory courses: ANTH 1100, 1200, 1300, 2000, and 11- 12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level. See the anthropology web site for more details.

Teacher Education

Anthropology courses may be used to complete part of the requirements for teacher certification in social studies.

Graduate Study

The department offers programs of study leading to Master of Arts and Doctor of Philosophy degrees in Anthropology. Check Anthropology department web pages for any updates.

Program Specific Admission Requirements

Master's Program

The Anthropology M.A. program has the following learning outcomes:

1. students will be able to explain the content of the "four fields" of anthropology and their interrelationship in written and oral formats,

2. students will have experience in original research, and

3. students will develop skills which foster professionalism as related to their chosen field.

Deadline for application is February 15 for the following fall. See graduate admission requirements. Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

The Department of Anthropology requires that at least two of the recommendation letters be from academic supervisors or instructors.

Students must present evidence of a satisfactory background in anthropology, which should include coursework in all four subfields of Anthropology (socio/cultural, bio/physical, archaeology, and linguistics). Deficiencies in anthropology may require remediation. Students must have two semesters of a single foreign language or equivalent, and one semester of statistics. In those instances in which the undergraduate background of the student is deficient, the department reserves the right to prescribe course work that would correct such deficiencies.

The M.A. program is designed to be completed in two full years of graduate study. Appropriate allowance will be made for parttime students.

Students who graduate with a Master of Arts degree will be able to explain the content of the four fields of Anthropology and their interrelationship in written and oral formats; they will have an experience in original research; and, they will develop skills which foster professionalism in their chosen fields.

Doctoral Program

The Anthropology Ph.D. program has the following learning outcomes:

1. students will have professional and specialized training so they can move into careers in academic or non-academic tracks,

2. students will have a dissertation research experience that results in professional publication(s), thereby contributing to the expansion of knowledge, and

3. students will have practical experience that will promote their movement into professional careers in a reasonable amount of time.

Deadline for application is December 1 for the following fall. *See graduate admission requirements.*

Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should identify whom they would like as their faculty adviser and describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

Students with a master's degree may apply directly to the Ph.D. program.

Students with a bachelor's degree may apply to the Ph.D. program. If admitted, students are expected to complete the master's degree requirements following the Plan A or Plan B option before formal admission to the Ph.D. program. At the thesis defense or hearing for the Plan B paper, the student will receive a no pass, pass-terminate at the master's degree, or a pass-admit to the Ph.D. program.

Students admitted to the department's M.A. program are not guaranteed admission to the Ph.D. program.

For admission to the Ph.D. program with the Bachelor's degree, students must have course work in the four subfields of anthropology, two semesters of a single foreign language, and statistical competency at either the B.A. or M.A. level. If these are not satisfied, the student's faculty adviser in coordination with the student's graduate committee assigns remedial work as appropriate.

Students who graduate with a Ph.D. in Anthropology will have specialized and professional training so they can move into academic or non-academic tracks; they will have a dissertation experience that results in professional publications; and they will have professional experiences that facilitate their move into careers in a reasonable amount of time.

Program Specific Graduate Assistantships

Doctoral students generally receive two years of assistantships. First semester, first year M.A. students are generally not awarded assistantships; however, the department occasionally does make exceptions. M.A. students are eligible to apply for assistantships beginning in the second semester.

Assistantships are awarded through a departmental application process. An application form, cover letter, and resume are required. Information and deadlines may be obtained in the department office.

Failure to complete steps in the M.A. program by established deadline (e.g., advisor selection, proposal presentation, etc.) means the student is not eligible for an assistantship. Failure of the Ph.D. preliminary exam means the student is not eligible for an assistantship.

Program Specific Degree Requirements

Master's Program Plan A (thesis)

See university minimum requirements.

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of ANTH 5010, 20th Century Anthropological Theory; ANTH 5015, Archaeological Theory and Method; ANTH 5020, Biological Anthropology; and ANTH 5030, Linguistic Anthropology.

First semester (fall): Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (spring): Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Third semester (fall): Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (spring): Thesis is completed and is approved by thesis committee.

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Plan B (non-thesis)

See university minimum requirements.

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Doctoral Program

See university minimum requirements.

After completion of an M.A. program in anthropology.

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee. If not completed prior to admission, two semesters of a single foreign language must be completed.

Two additional courses in their first or second year: ANTH 5880, Professionalism in Anthropology and the two-semester sequence of ANTH 5890, Teaching Anthropology (3 hours total).

Teaching experience, including standalone courses, after completion of the first semester of Teaching and Learning (ANTH 5890), as well as teaching assistance to UW faculty members.

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Committee meeting and successful completion of a dissertation proposal.

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a

student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

Major

Anthropology, B.A.

Anthropology students will be able to demonstrate knowledge about the four subfields of anthropology. They will have participated in research and will be able to analyze and synthesize in relation to anthropological issues or theories.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The BA in Anthropology requires the A&S Core:

- D - Diversity (3 credits)
- G - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Specific Requirements for a B.A.

This degree requires a total of 38 credits in Anthropology, 25 of which are upper-division credits. In addition to university and college requirements listed in this *Catalog*, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975.

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ANTH 1300 - Introduction to Archaeology Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3

- ANTH 3300 - Ethnographic Methods in Anthropology Credits: 3
  OR
- ANTH 3310 - Introduction to Anthropology Research Methods Credits: 3

Recommended

It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or STAT 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

Additional Requirements

Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology).

Upper Division Cultural Anthropology

Courses that can be used to fulfill upper division cultural anthropology are

- ANTH 4023 - Seminar in Cultural Anthropology Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ANTH 4320 - Political Anthropology Credits: 3
- ANTH 4340 - Culture Change Credits: 3
- ANTH 4350 - Medical Anthropology Credits: 3
- ANTH 4380 - Visual Anthropology Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Linguistic Anthropology

Courses that can be used to fulfill upper division linguistic anthropology are

- ANTH 4024 - Seminar in Linguistic Anthropology Credits: 3
- ANTH 4740 - Native American Languages and Cultures Credits: 3
- ANTH 4765 - Language Humor and Games Credits: 3
- ANTH 4775 - Language and Gender Credits: 3
- ANTH 4785 - Race and Language Credits: 3

- ANTH 4795 - Language Change Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Biological Anthropology

Courses that can be used to fulfill upper division biological anthropology are

- ANTH 4022 - Seminar in Biological Anthropology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4215 - Hominin Evolution Credits: 3
- ANTH 4220 - Human Variation Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- ANTH 4255 - Bioarchaeology Credits: 3
- ANTH 4260 - Anthropology of Food, Culture, and Nutrition Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Archaeology

Courses that can be used to fulfill upper division archaeology are

- ANTH 4021 - Seminar in Archaeology Credits: 3
- ANTH 4110 - Zooarchaeology I Credits: 3
- ANTH 4115 - Lithic Analysis Credits: 3
- ANTH 4120 - North American Archaeology Credits: 3
- ANTH 4125 - Northwestern Plains Prehistory Credits: 3
- ANTH 4130 - Old World Archaeology Credits: 3
- ANTH 4145 - Origins of the State Credits: 3
- ANTH 4150 - Seminar in Prehistory Credits: 1-3
- ANTH 4160 - Mapping Culture: Introduction to GIS in Anthropology Credits: 4
- ANTH 4170 - Geoarchaeology Credits: 3
- ANTH 4175 - South American Prehistory Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's consent)
  OR
- Six credits of archaeological field school (ANTH 4140 or ANTH 5180).

Minor

Anthropology Minor

Students will gain introductory training in at least two of the subfields of Anthropology combined with three or four upper division courses.

Introductory Courses

The minor for non-anthropology majors requires two of the introductory courses:

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3

- ANTH 1300 - Introduction to Archaeology Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3

Electives

- 11-12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level.

Graduate

Anthropology, M.A.

M.A. students receive training in the four subfields of anthropology, complete original research, and develop skills which foster professionalism as related to their chosen field.

Plan A (Thesis)

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Core-Course Sequence

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of

- ANTH 5010 - 20th Century Anthropology Theory Credits: 3
- ANTH 5015 - Archaeological Theory Credits: 3
- ANTH 5020 - Biological Anthropology Credits: 3
- ANTH 5030 - Linguistic Anthropology Credits: 3

First semester (Fall):

Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (Spring):

Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

Third semester (Fall):

Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (Spring):

Thesis is completed and is approved by thesis committee.

Plan B (Non-Thesis)

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Anthropology, Ph.D.

Provides students with training so to achieve academic or non-academic career goals. Students have a dissertation experience that results in professional publication. They will also have practical experience that will promote movement into careers.

Program Requirements

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

A Minimum of Six Content Courses: 18 Hours

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee.

First or Second Year:

Two additional courses in their first or second year

- ANTH 5880 - Professionalism Credits: 3
- ANTH 5890 - Teaching Anthropology Credits: 3 (two-semester sequence)

Teaching Experience

Teaching experience, including standalone courses, after completion of the first semester of ANTH 5890 - Teaching Anthropology, as well as teaching assistance to UW faculty members.

Internship Experience Credits: 6-24 Hours

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Dissertation Proposal

Committee meeting and successful completion of a dissertation proposal.

Preliminary Exams

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

Highly Recommended

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Department of Visual Arts

110 Visual Arts Building, (307) 766-3269
Web site: https://www.uwyo.edu/art/
Department Head: Doug Russell

Professors:

ASHLEY HOPE CARLISLE, B.F.A. University of Southern Mississippi 1997; M.F.A. University of Georgia 2002; Professor of Art 2019, 2003.

RICKI KLAGES, B.F.A. University of Arizona 1984; M.A. University of New Mexico 1991; M.F.A. 1993; Professor of Art 2012, 1996.

DOUG RUSSELL, B.F.A. Columbia College 1990; M.A. University of Iowa 1995; M.F.A. 1996; Professor of Art 2019, 2005.

RACHEL SAILOR, B.A. Oregon State University 1992; M.A. University of Oregon 1994; Ph.D. University of Iowa 2007; Professor of Art 2023, 2011.

SHELBY SHADWELL, B.F.A. Washington University in St. Louis 2003; M.F.A. Southern Illinois University 2007; Professor of Art 2024, 2010.

Associate Professors:

PETER FINE, B.A. California State University, Chico 1993; M.F.A. University of Arizona 2004; Associate Professor of Art 2017, 2013.

BRANDON GELLIS, B.A. University of California at Santa Cruz 2002; M.F.A. University of Denver 2015; Associate Professor of Art 2021, 2015.

Assistant Professors:

KAIT ARNDT, B.F.A. Utah State University 2010, M.F.A. University of Missouri 2016, Assistant Professor of Art 2023.

XUHAO (HOWE) YANG, B.F.A. Guangzhou Academy of Fine Arts, Guangzhou, Guangdong China 2001; M.F.A. University of North Texas 2013; Ph.D. University of Arizona, 2024; Assistant Professor of Art 2024.

Senior Academic Professional Research Scientist:

DAVID L. JONES Jr., B.F.A. University of Georgia 2000; M.F.A. University of Tennessee 2004.

Assistant Academic Professional Lecturer:

TRACEY ECKERSLEY, B.A., Wilfrid Laurier University; M.A., McMaster University; M.M.St., University of Toronto; Ph.D., University of Louisville, 2016.

SAMARA JOHNSON, B.F.A. Sonoma State University 2013; M.F.A. University of Colorado-Boulder 2020

Senior Academic Professional Lecturer:

BAILEY RUSSEL, B.A. Princeton University 2001; M.A. New York University 2004.

Professors Emeriti:

Deaderick, Edwards, Evans, Flach, Forrest, Reif, Russin (Distinguished Professor of Art), Schaefer, Haydon, Hardy, Ritchie

Visual Arts

The Department of Visual Arts supports the creative, aesthetic and cultural development of students within the university community and serves the cultural and educational needs of the state. The department is dedicated to preparing its graduates to assume leadership positions in their professional lives while maintaining an inner commitment to the aesthetic standards of their chosen discipline. The department encompasses four major areas: Studio Art, Visual Communication Design, Art History, and Art Education.

The program fosters a unique combination of innovation, tradition, aestheticism and practicality, by providing a professional visual arts education built on a strong University Studies Program (USP) foundation.

Department Policy

A class within the Department of Visual Arts may require additional meeting times, so that students may fully participate in the Visiting Artist Program and the UWAM lecture series.

As a matter of policy, the Department of Visual Arts reserves the right to retain any works created by students it deems worthy for the purposes of exhibition until the end of the academic year.

The Department of Visual Arts studios are the primary instructional classrooms. As a matter of policy, access to the studios and use of the equipment is reserved for students who are formally registered for scheduled courses and are following a prescribed curriculum.

Scholarships

The department has several scholarships for qualified students at all stages in the program. See the Department of Visual Arts website for a full list of scholarships.

Academic and Career Advisement

Faculty advisers work closely with department students to guide and direct their progress through their declared degree program and course of study. Through the Visiting Artist and Scholar Program, the UW Art Museum and internship placements, the department provides numerous opportunities and role models for a professional life in the visual arts. Through consultation and discussion with faculty advisers, art students consider their interests and abilities in relation to the many and varied careers in the arts and art related fields. Many graduates go directly into industry, on to pursue graduate studies or take the next step in their career plan. On a competitive basis upon graduation, majors may participate in the Post Undergraduate Assistantship Program where they may prepare a portfolio for graduate school and/or gain additional experience in the studio and the classroom setting.

Undergraduate Majors

The University of Wyoming Department of Visual Arts offers five degrees:

- Bachelor of Arts in Art History
- Bachelor of Arts in Studio Art
- Bachelor of Arts in Art Education
- Bachelor of Fine Arts in Studio Art
- Bachelor of Fine Arts in Visual Communication Design

Transfer Residency

A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in all five of the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000- and above).

BA in Studio Art and BA in Art Education Majors - General Requirements

ART 1005, 1110, 1120 and 1130 are considered an important preparation and prerequisite for drawing, painting, printmaking, ceramics, sculpture and visual communication design courses and are required freshman courses for the majors. Studio Art and Art Education Majors must complete the Foundation Core Hours before electing upper division courses in any studio area. ART 2010, 2020, and 2305 are required sophomore courses.

Once sophomore BA in Art Studio and BA in Art Education majors complete course prerequisites, they select a minimum of four courses from the studio core hours. Most of the university and college requirements should be completed as early as possible before the senior year. The department will enforce published prerequisites for courses.

BA in Studio Art and BA in Art Education majors must submit a portfolio for evaluation in ART 2000: Portfolio Review before proceeding to intermediate and advanced studio and design classes (3000 and 4000 level) beyond the required Studio Core. Any student whose portfolio is assessed as deficient must address the deficiencies by retaking and passing Portfolio Review before receiving permission to advance in the major. Students who intend to apply into the BFA in Studio Art or the BFA in Visual Communication Design must first declare a BA in Studio Art and successfully pass ART 2000: Portfolio Review.

Please note: Any BA in Studio Art and BA in Art Education student who does not pass ART 2000: Portfolio Review on their first attempt may decide to re-take the class. However, failure to pass the review twice will render the student ineligible to progress in the Department as a BA in Studio Art, BFA in Studio Art , BA in Art Education, or BFA in Visual Communication Design major, although minors in the department and the BA in Art History remain open - as do all other majors and minors on campus. Any student who has failed to pass Portfolio Review twice may petition to take the review for a third time based on extenuating circumstances outside of their control. Students may only petition once and the decision on that petition is final. ART 2000: Portfolio Review will is offered in each fall, spring, and summer semesters.

Undergraduate Minors

Minors are offered in the following areas:

- Art History
- Ceramics
- Digital Media
- Drawing
- Metalsmithing
- Museum Studies
- Painting
- Photography
- Printmaking
- Sculpture

Further information may be found on the department's website.

Please note: B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design and B.A. in Art Education degree students cannot have a minor in a specific studio discipline. B.A. in Art History students may have a minor in studio disciplines, and B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design, and B.A. in Art Education degree students may have a minor in Art History and/or Museum Studies.

Major

Art Education, B.A.

The BA in Art Education is a professional degree preparing students to be reflective, innovative K-12 art educators. The curriculum includes extensive Studio Art competencies and studies in Art History and Education.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Art Education** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 2000 - Portfolio Review Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

12 credits chosen from the below. At least one core course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3

- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required

Upper Division Art History: 6 hours

6 credits of upper division art history beyond ART 2010 and ART 2020

Upper Division Studio Electives: 12 Hours

12 credits of any upper division studio art classes

Art Education Program Requirements

Minimum Course Requirements for B.A. in Art Education

Minimum course requirements for Art Education Majors follow the curriculum plan for the B.A. in Studio Art Degree:

- University and College requirements,
- Foundations Core,
- Art History Core,
- Studio Core
- Upper Division Studio Electives.

The exception that there is no Foreign Language requirement. Students are required to apply for a Wyoming Substitute Teaching Certificate in the fall of their first semester in the program. Additional requirements are:

Professional Education Courses: 9 Hours

- EDST 2450 - Foundations of Development and Learning Credits: 3

required

- EDST 3480 - Diversity & the Politics of Schooling Credits: 3
  required
- EDEX 2484 - Introduction to Special Education Credits: 3
  required

Art Education Courses: 27 Hours

- ART 3430 - Methods I Credits: 3
  required
- ART 3490 - Philosophy, Theory and Issues Credits: 3
  required
- ART 3550 - Art Education Practicum Credits: 1-3
  required
- ART 4440 - Methods II Credits: 3
  required
- ART 4460 - Curriculum Design Credits: 3
  required
- ART 4810 - Residency for Elementary Credits: 6
  required
- ART 4820 - Residency for Secondary Credits: 6
  required

Studio or Art History Elective, any level: 3 Hours

**3 units of course in Studio Art or Art History at any level*

Additional Requirements

B.A. IN ART EDUCATION DEGREE

The BA in Art Education degree supports students' development as reflective, innovative and engaged K-12 art educators. The curriculum encompasses extensive Studio Art competencies as well as studies in Art History and Professional Education. Art Education courses cover a variety of teaching practices and methods of curriculum development that include interdisciplinary, multicultural approaches to teaching and emphasize relevance to the lives of K-12 students and the realities of our contemporary world. In-class learning is augmented with firsthand teaching experiences in local and regional schools, the University of Wyoming Art Museum, and includes teaching people of all ages in community-based arts settings. Upon graduation from our program, students earn Wyoming licensure for teaching K-12 Art.

Degree Requirements

Requirements of the degree include:

- 120 hours, including 91 hours within the major
- C or better in all courses taken to satisfy Major requirements
- Background check for all incoming art education degree students required prior to enrollment
- Application for art education degree is due prior to enrollment in Art Education courses

- 2.75 UW Total Institution GPA must be maintained throughout the Art Education Program of study
- 2.75 GPA within the major must be maintained throughout the Art Education Program of study
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses
- Score of 158 or above on the on the Praxis II Test: Art Content and Analysis by the end of the Residency semester
- As a Professional Degree, the BA in Art Education does not include the A&S Outside Major credit requirement.

Application

Students must fulfill the requirements listed in the *Application for the Art Education Program Checklist*:

- Satisfactory Completion of ART 2000 Portfolio Review
- C or above in all Education Courses
- C or above in all Art Content Courses
- Junior Standing (60+ credits)
- 2.75 or above overall UW total institutional GPA
- 2.75 or above in Major courses
- Completed background check

Probation, Removal, and Re-Application

- An Institutional and/or Major GPA below 2.75 mandates a probationary semester in the program (continuing with art ed courses) to raise GPA back up to 2.75 to continue
- If Institutional and Major GPA are not both above 2.75 by the end of the probationary semester, the student will be removed from the program
- Students may re-apply after removal from program if their GPA is again at or above 2.75

Art History, B.A.

The BA in Art History offers students a broad understanding of world art, historiography, and professional practices. Closely linked to the Museum Studies minor, the BA prepares students for graduate work or the work force.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Art History** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Program Requirements

Requirements of the degree include:

- 120 hours, including 57 hours within the major
- All Art courses must be passed with a letter grade of C or better
- 2.50 GPA within major required
- 2.50 or above overall UW total institutional GPA
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses

Art History Core: 12 Hours

- ART 2010 - Art History I Credits: 3 *required*
- ART 2020 - Art History II Credits: 3 *required*
- ART 2030 - History of Graphic Design Credits: 3 *required*
- ART 2070 - Introduction to Museology Credits: 3 *required*

Upper Division Electives: 30 Hours

*30 units - with the following stipulations:

15 hours 3000 or 4000 level Art History Courses

6 hours of ART 4790 Art Seminar

6 hours of upper division art history taken in other departments with cross listed courses

Courses in other disciplines as applicable

Honors Courses as applicable (Honors Program)

Potential other courses on a case by case basis in consultation with art history advisor

3 credits Internship or Art History travel course in consultation with art history advisor

Cross listed and applicable courses

*6 hours of upper division are history may be taken in other departments with cross listed courses (that may have prerequisites other than Art History).

- ART 4830 - Victorian Women's Lives: Their Art, Literature and Culture Credits: 3
  OR
- GWST 4830 - Victorian Women's Lives: Their Art, Literature and Culture Credits: 3

- ART 4780 - History of Women Artists Credits: 3
  OR
- GWST 4780 - History of Women Artists Credits: 3

- ARE 3030 - History of Architecture Credits: 3
- AMST 4250 - The Harlem Renaissance Credits: 3

- AMST 4640 - Art and Ecology Credits: 3

- Special Topics in American Studies including travel courses (as appropriate)
- Special topics in Classical and Modern Languages-including travel courses (as appropriate)
- HIST 4077 - Book History: Topics Credits: 3

Art Seminar

*6 hours of ART 4790 Art Seminar (fulfills USP COM 3 requirement)

- ART 4790 - Art Seminar Credits: 1-3
  required **Credits / Units:** 6

Upper Division Art History: 15 hours

*15 hours 3000 or 4000 level Art History Courses

Internship or Travel

*3 credits Internship or Art History travel course in consultation with art history advisor

- ART 4400 - Internship Credits: 1-3

Foreign Language: 15 Hours

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4

- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4
- LANG 2030 - Third Semester in (TOPIC) Credits: 1-4
- LANG 2040 - Fourth Semester in: (TOPIC) Credits: 3

Additional Requirements and Description

The B.A. in Art History major offers students with a course of study that will provide depth and breadth in the history of art. Students will develop a broad understanding of world art, study the art of western and other global cultures in-depth, and explore the historiography and professional practices related to the field. Closely linked to the Museum Studies minor curriculum, the B.A. in Art History has a strong vocational application. This degree provides preparation for entry into graduate school or for students who want to enter the work force after their undergraduate education. Students will have the experience and training to enter into the cultural sector (arts or archival management, non-profit work in the arts and humanities, etc.).

Studio Art, B.A.

The BA in Studio Art degree prepares students for further studies or careers in the studio arts and arts-related fields including art therapy, illustration, arts administration, design, and art education.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Studio Art** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Minimum Course Requirements for Art Majors

In addition to the university and college requirements listed above and in this Catalog, all students majoring in art must complete the following:

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1115 - Digital Media Credits: 1
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 2000 - Portfolio Review Credits: 1
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Studio Core (Minimum): 12 Hours

12 credits chosen from the below. At least one course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3
- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Upper Division Studio Electives: 12 Hours

12 credits of any upper division studio art classes

Foreign Language: 8 Hours

8 Hours of any Foreign Langage:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Art History Electives: 6 Hours

6 credits beyond ART 2010 and ART 2020, with at least 3 units at upper division level

Additional Requirements

B.A. IN STUDIO ART DEGREE

The B.A. in Studio Art degree is available to students who are preparing for further studies or careers in the arts and arts-related fields, such as art education, graphic design, art therapy, illustration, botanical illustration, and forensic illustration. Students work with their academic advisers to select courses from the USP and elective offerings to complement art studies in their areas of interest. Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. In addition to the university requirement that degree candidates hold a minimum cumulative grade point average of 2.000, degree candidates for the B.A. in Studio Art degree in the Department of Visual Arts also must have a minimum 2.500 overall cumulative grade point average and a 2.500 grade point average within all major courses at the time of graduation.

Transfer Residency. A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000 and above).

Based on their goals and career plans, students in consultation with a faculty adviser select the appropriate degree plan. Students major in studio art with areas of study in one or more of the following:

- Drawing
- Painting
- Photography
- Printmaking
- Ceramics
- Sculpture
- Metalsmithing
- Visual Communication Design

Studio Art, B.F.A.

The BFA in Studio Art is a professional degree open to outstanding students through an application process who are preparing for art studies, careers and professional activity in the studio arts.

Degree Requirements

This degree requires 122 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BFA in Studio Art** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 2000 - Portfolio Review Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

12 credits chosen from the below. At least one core course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required

Upper Division Studio Electives: 21 Hours

21 credits of any upper division studio art classes

Art and Art History Electives: 3 Hours

3 credits of any art or art history course at any level

BFA Core: 12 Hours

- ART 4010 - Contemporary Art: Theory/Practice Credits: 3
  required
- ART 4600 - Professional Practices and Strategies Credits: 3
  required
- ART 4800 - BFA Capstone I Credits: 3
  required, offered only fall semester
- ART 4840 - BFA Capstone II Credits: 3
  required, offered only spring semester

Upper Division Art History Electives: 9 Hours

9 credits of any upper division art history classes

Foreign Language: 8 Hours

8 hours in any Foreign Language:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Additional Requirements

B.F.A. IN STUDIO ART DEGREE

The B.F.A. in Studio Art is a professional level degree open to outstanding students through an application process who are preparing for art studies, careers and professional activity in the studio arts beyond the undergraduate level. The B.F.A. in Studio Art degree requires a minimum of 120 hours of credits with up to seventy-eight (78) semester hours focused in studio and art history course work. All B.F.A. in Studio Art students are required to participate in the B.F.A. exhibition upon graduation. As a Professional Degree, the B.F.A. in Studio Art does not include the A&S Outside Major credit requirement.

Application
Formal application is made to the program for acceptance into the B.F.A. in Studio Art degree program. Application must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty review of the application materials are required before a student is declared a candidate for the B.F.A. in Studio Art degree. Applicants must have achieved the following at the time of application to the B.F.A. in Studio Art:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA
- Successful completion of ART 2000: Portfolio Review

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Studio Art candidate. Students should apply at least three semesters before graduation. Application does not automatically guarantee acceptance into the B.F.A. in Studio Art program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual and Literary Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Studio Art after one semester in the Department of Visual Arts.

Visual Communication Design, B.F.A.

The BFA in Visual Communication Design is a professional degree open to outstanding students through an application process who are preparing for design studies, careers and professional activity in design.

Degree Requirements

This degree requires 122 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BFA in Visual Communication Design** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 2000 - Portfolio Review Credits: 1
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

12 credits chosen from the below. At least one course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History and Design Theory Core: 9 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required
- ART 2030 - History of Graphic Design Credits: 3
  required

Upper Division Art History - 20th and 21st Century: 6 Hours

* six hours in ART 4740 and ART 4770

- ART 4740 - 20th Century European Art Credits: 3
  required
- ART 4770 - Contemporary Arts Seminar Credits: 3
  required

VCD Core: 12 Hours

- ART 2110 - Type I: Thinking with Type Credits: 3
  required
- ART 2112 - VCD I Visual Thinking Credits: 3

required

- ART 2125 - VCD II Visual Programming Credits: 3
  required

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

Upper Division VCD: 15 Hours

- ART 3112 - Type: Type, Images, and Narrative Credits: 3
  required
- ART 3120 - VCD III: Visual Making Credits: 3
  required
- ART 3150 - VCD IV: Visual Imaging in Time Credits: 3
  required
- ART 4120 - VCD VI: Senior Design Studio Credits: 3
  required
- ART 4400 - Internship Credits: 1-3
  OR
- ART 4425 - Graphics Internship Credits: 3

BFA Core: 12 Hours

- ART 4010 - Contemporary Art: Theory/Practice Credits: 3
  required
- ART 4600 - Professional Practices and Strategies Credits: 3
  required
- ART 4800 - BFA Capstone I Credits: 3
  required, offered only fall semester
- ART 4840 - BFA Capstone II Credits: 3
  required, offered only spring semester

Upper Division Studio Electives: 9 Hours

9 credits of any upper division studio art classes

Foreign Language: 8 Hours

* 8 credits in any foreign language:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Additional Requirements

B.F.A. in Visual Communication Design

Designers explore a variety of visual communication design topics dealing with diverse messages and audiences. Students interested in pursuing a career in design, including visual communication design, graphic design, motion graphics, animation, digital media, etc. may apply into the B.F.A. in Visual Communication Design. Students planning to graduate in four years with a B.F.A. in Visual Communication Design should complete their Foundation Core in their Freshman year and take the appropriate Studio Core classes in their sophomore year. As a Professional Degree, the B.F.A. in Visual Communication Design does not include the A&S Outside Major credit requirement.

Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. To obtain a B.F.A. in Visual Communication Design degree in the Department of Visual Arts students must have a minimum 3.00 overall UW-total institutional GPA, and a 3.25 GPA in all major courses at the time of graduation.

The Visual Communication Design degree provides students with a human-centered approach to making and thinking as designers. Students learn through digital and hands-on-making design challenges to develop critical narrative skills and refine their ability to think conceptually. Individual projects and research prepare each student to think flexibly in an international community that is continually being influenced by new ideas, tools, and technologies. The Visual Arts Building, design computer classroom, and design and fabrication studio facilities offer undergraduate students ample research, design, and production space with access to cutting-edge technology, and open-source, industry standard software and tools for design exploration.

Application
Formal application is made to the program for acceptance into the B.F.A. in Visual Communication Design degree program. Applications must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty reviews of the application materials are required before a student is declared a candidate for the B.F.A. in Visual Communication Design degree. Applicants must have achieved the following at the time of application to the B.F.A. in Visual Communication Design:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA
- Successful completion of ART 2000: Portfolio Review

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Visual Communication Design candidate. Students should apply at least three semesters before graduation. Application does not automatically guarantee acceptance into the B.F.A. in Visual Communication Design program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Visual Communication Design after one semester in the Department of Visual Arts.

Minor

Art History Minor

The Art History Minor introduces students to the discipline of Art History in a 21 credit hour sequence.

Art History Sequence: 6 Hours

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Lower Division Requirement: 3 Hours

- ART 2070 - Introduction to Museology Credits: 3
  OR
- ART 2030 - History of Graphic Design Credits: 3

Other Traditions: 3 Hours

Including but not limited to Art & Architecture of Medieval Islam, Japanese Art History, Meso-American Art History

- ART 3720 - Art and Architecture of Medieval Islam Credits: 3

Art History Electives at the 3000/4000-level: 9 Hours

Art History Electives at the 3000/4000-level (including additional Other Traditions) Credits: 9

Total Credits: 21 Hours

Ceramics Minor

The Ceramics Minor introduces students to the discipline of Ceramics in a 24 credit hour sequence.

Required Courses: 18 Hours

- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2425 - Ceramics I Credits: 3
- ART 3410 - Ceramics III/I Credits: 3
- ART 3420 - Ceramics III/II Credits: 3
- ART 4410 - Ceramics IV/I Credits: 3
- ART 4420 - Ceramics IV/II Credits: 3

Studio Elective Courses in Ceramics: 3 Hours

- ART 2350 - Metalsmithing I Credits: 3
  OR
- ART 2310 - Sculptural Practices I Credits: 3

Art History Survey Elective: 3 Hours

Choose one of the following:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Digital Media Minor

The Digital Media Minor introduces students to the discipline of Digital Media in a 28 credit hour sequence.

Required Courses: 19 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1115 - Digital Media Credits: 1
- ART 2030 - History of Graphic Design Credits: 3
- ART 2110 - Type I: Thinking with Type Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2125 - VCD II Visual Programming Credits: 3
- ART 3150 - VCD IV: Visual Imaging in Time Credits: 3

Foundation Electives: 3 Hours

- ART 1110 - Foundation: Two Dimensional Credits: 3
  OR
- ART 1130 - Foundation: Color Theory Credits: 3

VCD Electives: 3 Hours

- ART 3112 - Type: Type, Images, and Narrative Credits: 3
  OR
- ART 4120 - VCD VI: Senior Design Studio Credits: 3

Art History Survey Elective: 3 Hours

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 28 Hours

Drawing Minor

The Drawing Minor introduces students to the discipline of Drawing in a 21 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 2005 - Drawing II Credits: 3
- ART 3052 - Life Drawing I Credits: 3

Studio Elective Courses in Drawing: 6 Hours

*6 credits chosen from the following...

- ART 3005 - Drawing III Credits: 3
- ART 4005 - Drawing IV Credits: 3
- ART 4052 - Life Drawing II Credits: 3
- ART 3250 - Watercolor Painting I Credits: 3
- ART 3260 - Illustration I Credits: 3
- ART 4250 - Watercolor Painting II Credits: 3
- ART 4260 - Illustration II Credits: 3
- ART 4975 - Independent Study and Research Credits: 1-3

Art History Survey Elective: 3 Hours

Choose one from

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Metalsmithing Minor

The Metalsmithing Minor introduces students to the discipline of Metalsmithing in a 21 credit hour sequence.

Required Courses: 12 Hours

- ART 1130 - Foundation: Color Theory Credits: 3
  OR
- ART 1005 - Drawing I Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 3350 - Metalsmithing II Credits: 3

Studio Elective Courses in Metalsmithing: 6 Hours

- ART 4355 - Metalsmithing III Credits: 3

required

- ART 4360 - Metalsmithing: Special Topics Credits: 3
  required

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Museum Studies Minor

The Museum Studies Minor introduces students to the discipline of Museum Studies. The total credit requirement varies.

Museum Studies Core: 12 Hours

- ART 2070 - Introduction to Museology Credits: 3
- ART 2075 - Museology II Credits: 3
  Cross-listed with: ANTH 2075, AMST 2075, HIST 2075

Related Skills - 3 Hours

3 credits to be taken from one of the following courses:

- ENGL 4075 - Writing for Non-Profits Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3

Internship - 3 Hours

3 credits at an Internship:

- ART 4078 - Museum Studies Minor Internship Credits: 3
  Cross-listed with: ANTH 4078, AMST 4078, HIST 4078

Methods Core: 6 Hours

Two 3-credit courses must be chosen from the following options:

- AMST 2400 - Introduction to Historic Preservation Credits: 3

- AMST 4300 - American Culture and the Public Sector Credits: 3
- AMST 4900 - Field Studies in American Culture Credits: 1-4
- ANTH 3310 - Introduction to Anthropology Research Methods Credits: 3
- ANTH 3300 - Ethnographic Methods in Anthropology Credits: 3
- ANTH 4020 - Seminar Credits: 3-6
- ANTH 4190 - Public Archaeology Credits: 3
- ENTO 4684 - Classification of Insects Credits: 4
- ART 4790 - Art Seminar Credits: 1-3
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 4113 - Geological Remote Sensing Credits: 4
- GEOL 4717 - Field Course in Geology Credits: 1-8
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3

Elective Courses: 3 Hours

Students will choose courses from the elective list in conjunction with their advisor, based on their area(s) of interest. Additional courses listed in the museum studies and methods cores can be chosen as electives. For a list of electives, go to www.uwyo.edu/museumstudies.

Cultural Experience / International Fieldwork

Choose one of the following:

- Study Abroad/International Field School - students may enroll or participate in an approved study abroad course or program - credits may vary,
  OR
- Foreign Language, Indigenous Language, or American Sign Language - 12 hours (12 hours of the same langauge **OR** 8 hours of one language and 4 hours of a second language).

Painting Minor

The Painting Minor introduces students to the discipline of Painting in a 24 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 2210 - Painting I Credits: 3

Studio Elective Courses in Painting: 9 Hours

Choose from 3000/4000-level painting courses including but not limited to:

- ART 3210 - Painting II Credits: 3
- ART 4210 - Painting III Credits: 3
- ART 4220 - Painting Topics Credits: 6
- ART 3250 - Watercolor Painting I Credits: 3
- ART 4250 - Watercolor Painting II Credits: 3
- ART 4655 - Outdoor Studio Credits: 3

- ART 3260 - Illustration I Credits: 3
  OR
- ART 4260 - Illustration II Credits: 3

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Photography Minor

The Photography Minor introduces students to the discipline of Photrography in a 24 credit hour sequence.

Required Courses: 15 Hours

- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 3510 - Printmaking I Credits: 3
  OR
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2265 - Introduction to Photography, Black and White Credits: 3
- ART 2255 - Introduction to Photography, Digital Credits: 3

Studio Elective Courses in Photography: 6 Hours

- Choose from 3000/4000-level photography courses

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Printmaking Minor

The Printmaking Minor introduces students to the discipline of Printmaking in a 24 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
  OR
- ART 1130 - Foundation: Color Theory Credits: 3

- An upper division drawing course beyond ART 1005
- ART 3510 - Printmaking I Credits: 3

Studio Elective Courses in Printmaking: 9 Hours

- Choose from 3000/4000-level printmaking courses Credits: 9

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Sculpture Minor

The Sculpture Minor introduces students to the discipline of Sculpture in a 21 credit hour sequence.

Required Courses: 6 Hours

- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2310 - Sculptural Practices I Credits: 3

Studio Elective Courses in Sculpture: 12 Hours

Choose from the following:

- ART 3310 - Sculptural Practices: Cast Form I Credits: 3
- ART 3320 - Sculptural Practices: Mixed Media I Credits: 3
- ART 3330 - Sculptural Practices: Assembled Form I Credits: 3
- ART 3345 - Sculptural Practices: Special Topics Credits: 3
- ART 4310 - Sculptural Practices: Cast Form II Credits: 3
- ART 4330 - Sculptural Practices: Assembled Form II Credits: 3

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Certificate

Arts Entrepreneurship Certificate

The Arts Entrepreneurship Certificate includes all performance and visual arts on campus and benefits students by creating learning labs which incubate collaborative work across disciplines, strengthening ties between artistic communities in Wyoming, and preparing UW's students to work in the rapidly changing arts job market.

Choose one of the following:

- ART 4600 - Professional Practices and Strategies Credits: 3
  OR
- MUSC 4000 - Careers in Music Credits: 2
  OR
- THEA 3850 - Design and Technology Seminar Credits: 2
  OR
- THEA 4720 - Auditioning and Professional Issues Credits: 3
  OR
- THEA 4700 - Professional Seminar in Dance Credits: 1

Seminar

- ART 4002 - Arts Entrepreneurship Seminar Credits:

Entrepreneurial Mindset

- ENTR 2400 - Entrepreneurial Mindset Credits: 3

Choose one of the following:

- MGT 2100 - Management and Organizations Credits: 3
  OR
- MKT 2100 - Introduction to Marketing Credits: 3

Department of Communication and Journalism

223 Ross Hall, (307) 766-3122
FAX: (307) 766-5293
Web site: www.uwyo.edu/COJO
Department Chair: Cindy Price Schultz

Professor:

CHIA FANG (SANDY) HSU, B.A. Chinese Culture University 1995; M.A. Washington State University 1997; Ph.D. Washington State University 2002; Associate Professor of Communication and Journalism 2009, 2003.

Associate Professors:

LI LI, B.A. Hebei Normal University 2001; M.A. China University of Mining and Technology 2004; M.A. Ohio University 2009; Ph.D. 2012; Associate Professor of Communication and Journalism 2019, 2012.

CINDY J. PRICE SCHULTZ, B.A. University of Sioux Falls 1989; M.S. South Dakota State University 1992; Ph.D. Southern Illinois University 2000; Associate Professor of Communication and Journalism 2005, 1999.

Assistant Professor:

SHANE EPPING, B.A. University of Chicago; M.A. Washington University, St. Louis; M.A. University of Missouri; Ph.D., University of Missouri.

HYE SOO NAH, B.A. Hankuk University, 2008; M.A., University of Missouri, 2011; Ph.D., University of Illinois, 2023.

Senior Lecturers:

BEAU BINGHAM, B.S. Idaho State University 2000; M.A. New Mexico State University 2002; Senior Lecturer of Communication and Journalism 2007, 2003.

JUSTIN STEWART, B.A. University of Wyoming 2003; M.A. 2005; Senior Lecturer of Communication and Journalism 2017, 2005.

Assistant Lecturers:

MATTHEW LIU, B.A. University of Mary Washington 2009; M.A. Wake Forest University 2014; Assistant Lecturer of Communication and Journalism 2019.

MITZI STEWART, B.A. University of Wyoming 2007; M.A. 2015; Assistant Lecturer of Communication and Journalism 2019.

Emeriti:

Michael R. Brown, B. Wayne Callaway, William C. Donaghy, John W. Ravage, Kenneth L. Smith

The Department of Communication and Journalism provides a broad range of professional and research courses, offering a sound interdisciplinary academic program for students who plan careers in communication or media. Courses are comprised of writing, speaking and analyzing messages; forms of interpersonal communication; media effects and audiences' interpretations of media messages and images. Degrees are granted in communication and journalism with academic specialties in each of the degree areas. Students are given academic preparation in communication skills (media writing and public speaking), coupled with opportunities for professional experience in their majors. The department also offers minors in public relations, communication, journalism, and marketing communication.

Facilities and Research Activities

The department encourages majors to work actively in professional opportunities. The department offers unique experience for students with the student newspaper, *The Branding Iron*.

Oral Communication Center, Ross Hall 442. A resource for the entire university community. The lab is open for anyone required to present material orally. Lab instructors offer assistance at any stage in the process-from topic selection, purpose statements and gathering materials-to organizing, outlining and rehearsal. They can help alleviate speech anxiety that may prevent or inhibit some individuals from achieving their overall academic or career goals. Clients can have their presentations recorded for critical input and evaluation as well as for portfolio or interview applications.

Debate. The department conducts a nationally recognized program of Cross Examination Debate Association (CEDA) and has a College Public Forum team. Teams and individuals representing the university attend national intercollegiate tournaments each year. Participation in the forensics program is open to all University of Wyoming students on a credit (COJO 2099) or non-credit basis.

Laboratories. The department has computer laboratories that support the professional, academic and research programs. These include a computer lab and digital production equipment.

Research. The department encourages undergraduate and graduate research. Faculty and students participate in research projects in social, cultural and political aspects related to media, interpersonal and organizational processes.

Internships. Journalism majors are required to complete internships in their field. Communication majors are encouraged to complete internships in their field. In addition to working with the *Branding Iron*, students can complete internships with newspapers; advertising and public relations agencies; non-profit organizations; businesses, professional and university sports organizations; governmental agencies; and many others. *Note*: a maximum of 6 hours in COJO 3480 and COJO 4990 count as fulfillment of the requirements for a major. Up to 12 hours will count toward graduation as upper-division hours.

Student Organizations

Professional Organizations. The department has a chapter of Lambda Pi Eta, communication honorary.

Student Activity. Within the department, student representatives participate on faculty committees where they assist in forming policies of the department.

The Branding Iron. The daily campus newspaper is independently managed by students at UW. It provides professional experiences for reporting, editorial, photojournalism, publication design and advertising.

The Owen Wister Review. The literary and arts magazine is independently managed and produced by university students, it features poetry, short stories, essays, photography and artwork.

Frontiers Magazine. The magazine is independently managed by UW students. Containing general interest content, the publication offers students opportunities to improve their professional skills in feature writing, in-depth reporting, photography, layout, design, advertising and marketing. Like the *Branding Iron* and *Owen Wister Review*, *Frontiers* is published under the auspices of UW Student Publications.

Scholarships and Awards

The department has several scholarships available to qualified students. Most are managed by Student Financial Aid.

Undergraduate Programs

The department offers courses leading to baccalaureate degrees in communication and journalism, as well as being an instrumental part of the Agricultural Communications degree. If a student wishes to double major in any of these degrees, only six credits will double count for each major.

Students majoring in the department must earn a grade of C or better in departmental required courses. Students may not take a course for S/U credit to satisfy requirements of the major.

Minors

The department offers minors in communication, journalism, marketing communication, and public relations. All minors must have a 2.00 minimum in minor classes. If a student is a communication, journalism or Agricultural Communications major, only six credits can double count for the major and the minor.

Graduate Study

The Department of Communication and Journalism offers graduate work leading to the master of arts degree in communication (either thesis or non-thesis) with emphasis on human communication or media communication.

The program offers coursework and study in rhetorical, critical/cultural, and social scientific perspectives and methodologies. The program is designed to be flexible such that students can examine questions that relate to their specific interests in human communication and/or mediated communication. Areas of interest include but are not limited to 1) communication processes in media (e.g., journalism, social media, advertising, public relations) about various issues such as politics, race and ethnicity, science, health, law and ethics, and international relations; 2) communication processes in human relationships (e.g., in interpersonal, small group, and organizational settings) about various issues such as culture, diversity, education, technology, science, and politics; and 3) communication as an agent of stability and change in diverse social systems.

Program Specific Admission Requirements

A cumulative minimum grade point average of 3.000 (A=4.000) on previous coursework is required for full admission.

The GRE is not required for admission to the graduate program. However, anyone who wants to be considered for a graduate assistantship in the department must take the GRE.

For international graduate students, the minimum acceptable TOEFL score is 540 (76 iBT). The minimum acceptable IELTS score is 6.5. International students must also provide proof of financial support (see UW Admissions for more details).

All graduate student applications, both domestic and international, must provide a writing sample of their work, whether that is a research paper, media publication, or another example of scholarly work. Please contact the director of graduate studies with any questions about the writing sample.

Major

Communication, B.A.

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.
Communication major Degree Requirements: This degree requires 120 credits, 21 of which are upper-division credits required for the communication major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Departmental Core Courses

In addition to the university studies requirements listed in this Catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Required Courses

- COMM 1040 - Intro to Communication Theory Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3
- Electives Credits: 15 (At least 12 elective hours must be at the 3000-level or higher of COJO courses.) The other three hours may be lower or upper division in COJO/COMM.

College of Arts and Science Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Humanities: 6-8 (H)

Communication, B.S.

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.
Communication major Degree Requirements: This degree requires 120 credits, 21 of which are upper-division credits required for the communication major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Departmental Core Courses

In addition to the university studies requirements listed in this Catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4 (4)
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4 (4)

Required Courses

- COMM 1040 - Intro to Communication Theory Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3
- Electives Credits: 15 (At least 12 elective hours must be at the 3000-level or higher of COJO courses.) The other three hours may be lower or upper division in COJO/COMM.

College of Arts and Sciences Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Physical and Natural World Credits: 6-8 (PN)
  OR
- Quantitative Reasoning Credits: 6-8 (Q)

Journalism, B.A.

The journalism major is designed to prepare students for careers as reporters, editors and writers with newspapers, news services, magazines, public information, public relations, advertising, and many other fields.
Journalism major Degree Requirements: This degree requires 120 credits, 24 of which are upper-division credits required for the journalism major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

- Departmental Core Courses Credits: 30
- COJO 3480 - Internship Credits: 1-12 (3)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- Elective Credits: 15 (At least 9 hours must be from the list of journalism courses.)Three hours need to be upper division in COJO. The other three hours can be upper or lower division in COJO/COMM.

Departmental Core Courses

In addition to the university studies requirements listed in this catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4 (4)
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4 (4)

College of Arts and Sciences Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Human Culture Credits: 6 (H)

Minor

Communication Minor

The communication minor is an excellent companion to a variety of majors, such as political science, business, environment, agriculture and many others that need excellent communication skills.

Required: 12 Hours

- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3

Electives: 6 Hours

- COJO 3160 - Theory of Language and Society Credits: 3
- COJO 3190 - Cross-Cultural Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (limited to 3 credits)
- COJO 3520 - Communication Technology and Society Credits: 3
- COJO 3550 - Political Communication Credits: 3
- COJO 3900 - Family Communication Credits: 3
- COJO 4020 - Mass Media and Society Credits: 3
- COJO 4030 - Advanced Interpersonal Communication Credits: 3
- COJO 4050 - Communication and Conflict Credits: 3
- COJO 4061 - Rhetorical Theory and Criticism Credits: 3
- COJO 4140 - Nonverbal Communication Studies Credits: 3
- COJO 4250 - Advanced Organizational Communication Credits: 3
- COJO 4260 - Rhetoric and Social Justice Credits: 3
- COJO 4620 - Intergroup Communication Credits: 3
- COJO 4640 - Communication Apprehension/ Competence Credits: 3
- COJO 4210 - Special Topics in Communication Credits: 1-3 (no more than one)

Total: 18 Hours

Other Information:

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Journalism Minor

The journalism minor is an excellent companion to a variety of majors, such as political science, business, environment, agriculture and many others that need applied writing and media-oriented skills.

Required Courses: 9 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3

Elective Courses: 9 Hours

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3000 - History of American Journalism Credits: 3
- COJO 3100 - Public Affairs Reporting Credits: 3
- COJO 3200 - Graphics of Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (limited to 3 credits)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 3550 - Political Communication Credits: 3
- COJO 4020 - Mass Media and Society Credits: 3
- COJO 4040 - Digital Video Production Credits: 3
- COJO 4200 - Visual Communication Credits: 3
- COJO 4230 - Special Topics in Mass Media Credits: 1-3 (no more than one)
- COJO 4233 - Race, Gender, Ethnicity in the Media Credits: 3
- COJO 4400 - Photojournalism Credits: 3 (COMM 2400 prerequisite)
- COJO 4530 - Web Design Credits: 3
- COJO 4700 - Media, Science, and Society Credits: 3

Total: 18 Hours

Additional Information

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Marketing Communication Minor

The marketing communication minor is combination of skills acquired in the marketing and communication fields. It is only available to College of Business or Communication and Journalism majors.

Required for all Minors

- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- COJO 3300 - Advertising in the Media Credits: 3
- COJO 3310 - Public Relations Credits: 3

Emphasis

COJO Emphasis

(to be taken by non-COJO majors):

Choose Three Courses from the Following: 9 Hours

- COMM 2100 - Media Writing Credits: 3 (Required in this emphasis and prerequisite to COJO 3300 and COJO 3310)

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3200 - Graphics of Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (Prerequisite 9 hours of COJO, 3 credits can apply toward minor)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4040 - Digital Video Production Credits: 3 (Prerequisite 9 hours of COJO)
- COJO 4310 - Public Relations Techniques Credits: 3 (Prerequisite COJO 3310)

Marketing Emphasis

(to be taken by non-College of Business majors):

Choose Three Courses from the Following: 9 Hours

- MKT 4240 - Consumer Behavior Credits: 3 (Required in this emphasis)
- MKT 4520 - Marketing Research and Analysis Credits: 3
- MKT 4540 - International Marketing Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3
- MKT 4910 - Topics in Marketing Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3

Total: 21 Hours

Additional Information

Students seeking a minor must have 15 hours exclusive to the minor and not used in the major.

Public Relations Minor

Public relations is a minor that can help you in numerous fields. It is foundational for learning how to promote your organization and build relationships with many different publics to the benefit of all involved.

Required: 12 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 3310 - Public Relations Credits: 3
- COJO 4310 - Public Relations Techniques Credits: 3

Three of the Following: 9 Hours

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3300 - Advertising in the Media Credits: 3
- COJO 3480 - Internship Credits: 1-12

- COJO 3530 - Multimedia Production Credits: 3
- COJO 4040 - Digital Video Production Credits: 3
- COJO 4200 - Visual Communication Credits: 3
- COJO 4230 - Special Topics in Mass Media Credits: 1-3 (no more than one)
- COJO 4250 - Advanced Organizational Communication Credits: 3
- COJO 4530 - Web Design Credits: 3

Total: 21 Hours

Additional Information

Students seeking a minor must have 15 hours exclusive to the minor and not used in the major.

Graduate

Communication, M.A.

The master's in communication is an excellent degree to enrich your skills in writing, oral, and other forms of communication. There are two tracks: human and mediated communication. Several assistantships are available.

Admission Requirements:

Prospective students who are interested in this program are encouraged to contact the Director of Graduate Studies, Dr. Sandy Hsu (hsus@uwyo.edu), for more information and guidance regarding applying. To apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): Statement of purpose, transcripts (a minimum of cumulative 3.0 GPA), three letters of recommendation, and writing samples. International applicants, who are not native English-speakers, must submit TOEFL, IELTS, or Duolingo scores.

If you want to be considered for a graduate teaching assistantship teaching either Public Speaking or Media Writing, the PR/Marketing graduate assistantship, the Wyoming Debate Union graduate assistantship, or the Rott research fellowship positions, please complete the online application by March 1. You must complete the GA application sent to you via email from the UW Office of Admissions (once you start an online application, UW Admissions will email you this document). You must also upload a resume to your online GA application. The resume should include a 3-5 minute video link that highlights and illustrates how you would approach being a teaching, marketing, or debate assistant. Those who apply for a research fellow must give a one-page summary about their research knowledge and capabilities and explain how their planned thesis or project is part of the journalism or media field.

Research Thesis: 31 Hours

31 hour program.

Students must complete an accepted research thesis approved by the student's thesis committee.

Students must complete a minimum of 27 credit hours and 4 hours of thesis credit. A minimum of 24 hours must be within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 3 hours of 4000-level coursework.

Students Must Complete

- COJO 5070 - Quantitative Research Methods Credits: 3
- COJO 5080 - Qualitative Research Methods Credits: 3
- COJO 5800 - Foundations of Communication and Journalism Credits: 3

One of the Following Theory Courses:

- COJO 5061 - Rhetorical Theory and Criticism Credits: 3
- COJO 5310 - Seminar in Mass Communications Credits: 3
- COJO 5540 - Seminar in Communication Theory Credits: 3

Professional Project: 33 Hours

33 hour program.

Students must complete an accepted professional project (e.g., documentary film, public relations and marketing plan, website) approved by the student's graduate committee. Students who chose the project option will be required to take 30 credit hours plus 3 hours of Graduate Project credits (for a total of 33 credit hours). A minimum of 27 hours must be taken within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 6 hours of 4000-level coursework.

Students Must Complete

- COJO 5070 - Quantitative Research Methods Credits: 3
- COJO 5080 - Qualitative Research Methods Credits: 3
- COJO 5800 - Foundations of Communication and Journalism Credits: 3

One of the Following Theory Courses:

- COJO 5061 - Rhetorical Theory and Criticism Credits: 3
- COJO 5310 - Seminar in Mass Communications Credits: 3
- COJO 5540 - Seminar in Communication Theory Credits: 3

Department of Criminal Justice and Sociology

Contact Information

208 Arts and Sciences Building,
(307) 766-2988
Criminal Justice website: www.uwyo.edu/cj **Sociology website:** www.uwyo.edu/Sociology
Department Head: Eric Wodahl

Mission Statement

The Department of Criminal Justice & Sociology is committed to providing its students with a comprehensive liberal arts education and advancing research of value to Wyoming and our respective fields. We strive to provide a high-quality education to students that will inspire them to become critical thinkers, effective communicators, and lifelong consumers of knowledge. Students will be exposed to diverse perspectives, research, and learning opportunities to prepare them for a variety of professions in the public, private, non-profit, research, service, and academic settings.

Faculty

Professors:

ADRIENNE FRENG, B.A. Black Hills State University 1995; M.A. University of Nebraska 1997; Ph.D. 2001; Professor of Criminal Justice 2007, 2001.

ERIC J. WODAHL, A.A. Eastern Wyoming College 1992; B.A. Chadron State College 1994; M.P.A. University of Wyoming 2003; Ph.D. University of Nebraska at Omaha 2007; Professor of Criminal Justice 2021, 2007.

Associate Professors:

JAMIE A. SNYDER, B.S. Northern Kentucky University 2005; M.S. University of Cincinnati 2007; Ph.D. 2011; Associate Professor of Criminal Justice 2021, 2018.

JENNIFER TABLER, B.A. University of California Los Angeles 2010; M.S. University of Utah 2013; Ph.D. 2016; Associate Professor of Sociology 2022, 2018.

CLAIR UDING, B.A. Colorado State University 2009; Ph.D. Arizona State University 2015; Associate Professor of Criminal Justice 2023, 2018.

Assistant Professors:

DANIEL AUERBACH, B.S. St. Lawrence University 2008; M.S. North Carolina State University 2012; Ph.D. University of Utah 2020; Assistant Professor of Sociology 2020.

KYLE BARES, B.A. University of Wyoming 2016; M.A. Bowling Green State University 2018; Ph.D. Bowling Green State University 2021; Assistant Professor of Criminal Justice 2022.

KATELYN GOLLADAY, B.B.A. Pacific Lutheran University 2012; M.S. Arizona State University 2014; Ph.D. 2018; Assistant Professor of Criminal Justice 2018.

KENNETH R HANSON, B.A. Seattle University 2015; M.A. Kent State University 2017; Ph.D. University of Oregon 2022; Assistant Professor of Sociology 2022.

JULIE KUPER, B.S. Florida State University; M.S. Florida State University; Ph.D. Florida State University, 2024; Assistant Professor 2024.

Lecturers:

DANIEL FETSCO, B.A. University of Wyoming 1995; J.D. University of Denver 1998; M.A. Arizona State University 2013; Associate Lecturer of Criminal Justice 2023, 2017.

PAUL GREGORY, B.S. Lamar University 1992; M.A. University of Houston; Ph.D. Western Michigan University; Assistant Lecturer 2024.

AMANDA SIKIRICA, B.A. College of William and Mary; M.S. University of Oregon; Ph.D. University of Oregon; Assistant Lecturer 2023.

Adjunct Professor:

(See Catalog section following name for academic credentials.)

MARTHA MCCAUGHEY, Ph.D., Visiting Adjunct Professor

Professors Emeriti:

David Ashley, Audie Blevins, Gary Hampe, Malcolm Holmes, Quee-Young Kim, Richard Machalek

Degree Programs

Criminal Justice Program

Criminal Justice is a social science that major examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services. The Criminal Justice Program offers both undergraduate and graduate degrees, concentrations, and minors (see below for details). Criminal Justice students will be involved in a critical examination of the sources of criminal behavior and the social and political institutions and processes designed to control criminal behavior. We expect that our graduating students will have achieved the following learning outcomes:

1. Students will identify and describe major types of crime, the extent of crime, and its distribution in society.
2. Students will describe the broad historical and contemporary understanding of criminal justice systems, the interconnectedness of policing, courts, and corrections.
3. Students will recognize and apply major legal principles that serve as the foundation for civil and criminal law in the justice system.
4. Students will describe basic concepts and evaluate theoretical perspectives in criminology and criminal justice.
5. Students will demonstrate the ability to comprehend and critically assess research and policy relevant to the field of criminal justice and criminology.
6. Students will critically examine major ethical dilemmas facing the criminal justice field and the related issues of diversity and discrimination.

Sociology Program

Sociology is the scientific study of group life and the investigation of the social causes and consequences of human behavior. This discipline occupies a central position in the social sciences and covers the full scope of social behaviors, from interactions between individuals to relationships among entire societies. Most importantly, sociology invites students to analyze those features of social existence that we are most likely to take for granted. As such, sociological training imparts critical and analytical skills of great value in virtually all aspects of modern life.

Much of the applied knowledge employed in diverse fields such as communications, social work, business management, family life, health care, urban planning, government, education, religion and the administration of justice

derives from basic sociological research. Consequently, sociological training provides an excellent background for occupations connected with these fields. In addition, an undergraduate degree in sociology prepares many students for advanced study in law, education, business, public administration, social work, pastoral work, health care and other professions.

We expect that our graduating students will have achieved the following learning outcomes:

1. Demonstrate an understanding of basic concepts and theoretical perspectives in sociology
2. Apply the scientific method to sociological research
3. Develop proficiency in the critical consumption of academic and non-academic sources
4. Express sociological ideas in core substantive areas, such as inequality, race/ethnicity, environment, deviance, gender, family, and education, clearly and coherently through written and oral communication
5. Apply a sociological framework to social problems occurring locally, nationally, and globally

Major

Criminal Justice, B.A.

The B.A. in Criminal Justice is a social science major that examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Arts & Sciences College Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

Students must complete all foundation courses with a grade of C or better.

- CRMJ 1001 - Introduction to Criminal Justice Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- CRMJ 2400 - Criminology Credits: 3
- CRMJ 2465 - Research Methods Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 3350 - Correctional Theory and Practice Credits: 3
- CRMJ 3490 - Issues in Policing Credits: 3
- CRMJ 4200 - Ethics in Administration of Justice Credits: 3

Criminal Justice Core

Students must complete any 4 courses with a grade of C or better.

- CRMJ 3250 - Juvenile Delinquency Credits: 3
- CRMJ 3400 - Deviant Behavior Credits: 3
- CRMJ 3500 - Drugs and the Criminal Justice System Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3
- CRMJ 4150 - Community-Based Corrections Credits: 3
- CRMJ 4151 - Crime Causation Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3
- CRMJ 4340 - Victimology Credits:
- CRMJ 4540 - Gender and Crime Credits: 3
- CRMJ 4550 - Crime Prevention Credits:
- CRMJ 4705 - Terrorism Credits: 3

Supporting Courses

Students must complete one three credit hour course from the list below; or 1 additional course from Criminal Justice Core. Must be completed with a grade of C or better.

- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- CRMJ 4230 - Forensic Anthropology Credits: 3
- CRMJ 4350 - Sociology of Law Credits: 3
- CRMJ 4370 - Criminal Psychopathology Credits: 3
- CRMJ 4590 - Green Criminology Credits: 3
- CRMJ 4600 - Political Violence Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3
- CRMJ 4750 - Criminal Justice Internship Credits: 1-12
- CRMJ 4760 - Child Maltreatment Credits: 3
- CRMJ 4965 - Research Hours in Criminal Justice Credits: 1-6
- CRMJ 4975 - Readings Credits: 1-3
- CRMJ 4990 - Special Topics Credits: 3

Foreign Language

Students are required to complete two semesters of the same foreign language with a grade of C or better. Two semesters of American Sign Language (SPPA 2110 & SPPA 2120) will fulfill this requirement.

Statistics

Students are required to complete STAT 2050 or STAT 2070 or SOC 2070 with a grade of C or better.

In Addition

Upper division course work that was completed more than ten years prior to graduation will not meet major requirements.

Criminal Justice, Prelaw Concentration, B.A.

The Pre-Law Concentration consists of diverse courses selected from departments across the university to help prepare students for the challenges of law school and the practice of law.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Verbal Comprehension and Expression: 3 Hours Minimum

- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3160 - Theory of Language and Society Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- HIST 4515 - American Legal History Credits: 3

Written Comprehension and Expression: 6 Hours Minimum

Students must complete any two (2) courses with a USP designation of WC or COM3.

Critical Understanding of Human Institutions and Values: 3 Hours Minimum

- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3

- PHIL 3340 - Philosophy in Literature Credits: 3 (max. 3 hours)
  OR
- ENGL 3340 - Philosophy in Literature Credits: 3 (max. 3 hours)
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3500 - History of Science Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
  OR
- AMST 4051 - Environmental Politics Credits: 3
  OR
- ENR 4051 - Environmental Politics Credits: 3
  OR
- GEOG 4051 - Environmental Politics Credits: 3
  OR
- REWM 4051 - Environmental Politics Credits: 3
- COJO 4260 - Rhetoric and Social Justice Credits: 3
  OR
- AAST 4260 - Rhetoric and Social Justice Credits: 3

Creative and Analytical Thinking: 3 Hours Minimum

- CW 2050 - Introduction to Fiction Credits: 3
  OR
- CW 2060 - Introduction to Nonfiction Credits: 3 (max. 3 hours)
  OR
- CW 2080 - Introduction to Poetry Credits: 3 (max. 3 hours)

- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- STAT 4015 - Regression Analysis Credits: 3

- AGEC 4550 - Negotiation Analysis Credits: 3
  OR
- ENR 4550 - Negotiation Analysis Credits: 3

World Cultures and International Institutions: 3 Hours Minimum

- INBU 1040 - Introduction to International Business Credits: 3
  OR

- INST 1040 - Introduction to International Business Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3

- INST 2310 - Introduction to International Relations Credits: 3
  OR
- POLS 2310 - Introduction to International Relations Credits: 3

- PHIL 3320 - Eastern Thought Credits: 3
- ANTH 3420 - The Anthropology of Global Issues Credits: 3
  OR
- INST 3420 - The Anthropology of Global Issues Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3

- INST 4340 - International Organizations Credits: 3
  OR
- POLS 4340 - International Organizations Credits: 3
- INST 4370 - Global Political Economy Credits: 3
  OR
- SOC 4370 - Global Political Economy Credits: 3

Electives: 9 Hours Max (3 Courses)

- ECON 1000 - Global Economic Issues Credits: 3

- COMM 1030 - Interpersonal Communication Credits: 3
  OR
  COJO 1030 - Interpersonal Communication Credits: 3

- COMM 1040 - Intro to Communication Theory Credits: 3
  OR
  COJO 1040 - Intro to Communication Theory Credits: 3

- MGT 2010 - Legal Environment of Business Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- CNSL 2200 - Introduction to Student Leadership Credits: 2
- STAT 3050 - Statistical Methods Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- COJO 3190 - Cross-Cultural Communication Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
  OR
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- ANTH 4340 - Culture Change Credits: 3
  OR
- INST 4350 - Culture Change Credits: 3

- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3

- POLS 4840 - Seminar in Public Law Credits: 3

Additional Information

The Department of Criminal Justice offers a Pre-Law Concentration for Criminal Justice majors that consists of courses selected from several departments across the university. These courses were chosen to help prepare students for the challenges of law school and the practice of law. Students electing the Pre-Law Concentration are urged to seek advising early.

The Pre-Law Concentration requires 27 credit hours - 18 of which must be 3000-level or above. All coursework must be completed with a grade of C or better to be counted toward the concentration.

Sociology, B.A.

Sociology is the study of the development, interaction, and behavior of organized human groups. Sociology provides powerful insights into the social processes that shape our lives, the problems we face, and the possibilities we can envision.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Arts & Sciences College Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

Students must complete all Foundation Courses with a grade of C or better.

- SOC 1000 - Sociological Principles Credits: 3
- SOC 2070 - Introductory Statistics for the Social Sciences Credits: 4
  OR
- STAT 2050 - Fundamentals of Statistics Credits: 4
- SOC 2465 - Research Methods Credits: 3
- SOC 4715 - Sociological Theory Credits: 3

Core Courses:

Students must complete four courses from the following list with a grade of C or better.

- SOC 2350 - Race and Ethnic Relations Credits: 3
- SOC 3110 - Self and Society Credits: 3
- SOC 3140 - Sociology of the Family Credits: 3
- SOC 3200 - Sociology of Religion Credits: 3
- SOC 3400 - Deviant Behavior Credits: 3
- SOC 3500 - Sociology of Gender Credits:
- SOC 3550 - Medical Sociology Credits: 3
- SOC 3605 - Sociology of Education Credits: 3
- SOC 3640 - Social Inequality Credits: 3
- SOC 3880 - Political Sociology Credits: 3
- SOC 3910 - Global Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3

Elective Courses

Students must complete 9 additional hours of sociology courses with a grade of C or better. Electives may be used either to develop additional expertise in an area of interest or to broaden the student's sociological training.

Minor

Criminal Justice Minor

Criminal Justice is a social science that examines the causes and impacts of crime in society. A minor in criminal justice requires 18 semester hours in criminal justice. All courses must be completed with a grade of C or better.

Required Courses

- CRMJ 1001 - Introduction to Criminal Justice Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3

- CRMJ 2400 - Criminology Credits: 3
  OR
- SOC 2400 - Criminology Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 3350 - Correctional Theory and Practice Credits: 3

- CRMJ 3490 - Issues in Policing Credits: 3

Interdisciplinary Pre-Law Minor

The minor requires 18 hours to be completed from among the following courses. Of these 18 hours, 12 must be upper division (3000 or 4000 level). In addition, 12 of the 18 hours must be outside the student's primary major, and none of these courses may be credited toward both the minor and the USP requirement. Complete one course from each of the following categories. All coursework must be completed with a grade of C or better to counted toward the minor.

Language Comprehension & Expression: 3 Hours

- COMM 1030 - Interpersonal Communication Credits: 3
  OR
  COJO 1030 - Interpersonal Communication Credits: 3

- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3160 - Theory of Language and Society Credits: 3
- COJO 4061 - Rhetorical Theory and Criticism Credits: 3
  OR
- ENGL 4061 - Rhetorical Theory and Criticism Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- ANTH 4795 - Language Change Credits: 3

Written Comprehension & Expression: 3 Hours

Any course with a USP designation of C3 may be counted in this area. However, no C3 course may be counted twice toward fulfilling this category and the USP C3 requirement or another category within the prelaw minor.

Critical Understanding of Human Institutions & Values: 3 Hours

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3500 - History of Science Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
  OR
- AMST 4051 - Environmental Politics Credits: 3
  OR
- ENR 4051 - Environmental Politics Credits: 3
  OR
- GEOG 4051 - Environmental Politics Credits: 3
  OR
- REWM 4051 - Environmental Politics Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- AAST 4260 - Rhetoric and Social Justice Credits: 3

OR

- COJO 4260 - Rhetoric and Social Justice Credits: 3
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

Creative & Analytical Thinking: 3 Hours

- CW 2050 - Introduction to Fiction Credits: 3
- CW 2060 - Introduction to Nonfiction Credits: 3
- CW 2080 - Introduction to Poetry Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
  OR
- CRMJ 4230 - Forensic Anthropology Credits: 3

- PHIL 4420 - Advanced Logic Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3
  OR
- ENR 4550 - Negotiation Analysis Credits: 3

World Cultures & International Institutions: 3 Hours

- HIST 1330 - World History since 1500 Credits: 3
- ANTH 2200 - World Culture Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- ANTH 3420 - The Anthropology of Global Issues Credits: 3
  OR
- INST 3420 - The Anthropology of Global Issues Credits: 3
- INST 3910 - Global Sociology Credits: 3
  OR
- SOC 3910 - Global Sociology Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3

- INST 4340 - International Organizations Credits: 3
  OR
- POLS 4340 - International Organizations Credits: 3

Law: 3 Hours

- MGT 2010 - Legal Environment of Business Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3

- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
  OR
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- HIST 4515 - American Legal History Credits: 3
- CRMJ 4540 - Gender and Crime Credits: 3
  OR
- GWST 4540 - Gender and Crime Credits: 3
- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3
  OR
- PSYC 4730 - Psychology and Law Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3

Sociology Minor

Sociology is the study of the development, interaction, and behavior of organized human groups. Sociology provides powerful insights into the social processes that shape our lives, the problems we face, and the possibilities we can envision.

Requirements

The sociology minor requires a total of 18 sociology credits including SOC 1000. At least 9 of these 18 hours must be upper-division sociology credits.

Only grades of C or better can be counted toward the minor. Also, students seeking a minor must have 12 credit hours exclusive to the minor and not counted toward their major.

Graduate

Criminal Justice Concentration within the M.P.A.

The Master of Public Administration Program with Criminal Justice Concentration is a professional degree designed for current and future leaders in the criminal justice field.

Plan B (Non-Thesis)

A criminal justice concentration within the master of public administration program is offered by the Criminal Justice program. Students wishing to enroll in the M.P.A. with criminal justice concentration must first be admitted into the M.P.A program. See M.P.A. program admissions requirements for specific details.

The M.P.A. with criminal justice concentration curriculum consists of 39 credits including: 24 hours of core credit; criminal justice (4) courses; and one additional approved elective course. Students may complete the degree within two years full-time or approximately three-four years part-time. Courses are offered through distance education, which allows students to complete their degree in their community while working full-time.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/ electronic class discussion.

Students must maintain a graduate GPA of 3.000.

MPA Required Core Courses

Thirty-nine hours of graduate credit, to include:

- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5400 - Public Personnel Management Credits: 3
- PBAD 5410 - Administrative Behavior and Theory of Organization Credits: 3
- PBAD 5440 - Principles and Processes of Government Budgeting Credits: 3
- PBAD 5480 - Ethics In Government Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- PBAD 5684 - Empirical Analysis for Public Administration Credits: 3
- POLS 5690 - Capstone in Public Management Credits: 3

Criminal Justice Concentration Courses

Required Criminal Justice Concentration Courses

- CRMJ 5000 - Survey of Criminal Justice Credits: 3
- CRMJ 5100 - Public Policy and Crime Credits: 3

Elective Criminal Justice Concentration Courses

*Students with little or no administration and/or criminal justice professional experience must enroll in CRMJ 5500 as one of their electives.

(students must select two of the following courses)

- CRMJ 5151 - Crime Causation Credits: 3
- CRMJ 5280 - Comparative Criminal Justice Credits: 3
- CRMJ 5500 - Internship in Criminal Justice Credits: 3 *
- CRMJ 5540 - Gender and Crime Credits: 3
- CRMJ 5590 - Green Criminology Credits: 3
- CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law Credits: 3

Approved Elective Credit

One additional approved MPA elective course is required. For additional options, contact the MPA director.

- POLS 4052 - Federal Land Politics Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- POLS 5051 - Environmental Politics Credits: 3
- CNSL 5060 - Counseling Ethics and Professional Issues Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 5450 - Administrative Regulation Credits: 3
- PBAD 5460 - Public Administration and Law Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- PBAD 5500 - Internship in Public Administration Credits: 1
- EDRE 5530 - Introduction To Research Credits: 3
- POLS 5530 - USCongress Credits: 3
- PBAD 5540 - Public Policy Perspectives Credits: 3
- PBAD 5560 - Public Administration in Literature and Film Credits: 3
- POLS 5600 - Political Violence Credits: 3
- POLS 5685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- POLS 5810 - Seminar in Political Philosophy Credits: 3

Department of English

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/english
Department Chair: Kelly Kinney

Professors:

SUSAN ARONSTEIN, B.A. Seattle Pacific University 1980; M.Sc. Edinburgh University 1984; Ph.D. Stanford University 1987; Professor of English 2006, 1987.

KENT G. DRUMMOND, B.A. Stanford University 1980; M.B.A. Northwestern University 1982; Ph.D. University of Texas, Austin 1990; Professor of English 2019, 1990.

CAROLINE McCRACKEN-FLESHER, M.A. University of Edinburgh 1980; M.A. Brown University 1986; Ph.D. 1989; Professor of English 2004, 1989.

TRACEY OWENS PATTON, M.A. Colorado State University 1996; Ph.D. University of Utah 2000; Professor of English 2022.

Associate Professors:

CAROLYN ANDERSON, B.A. Auckland University 1981; M.A. 1984; Ph.D. Stanford University 1992; Associate Professor of English 2001, 1993.

MICHAEL EDSON, B.A. Virginia Tech University 2003; M.A. University of Delaware 2005; Ph.D. 2011; Associate Professor of English 2020, 2014.

SCOTT HENKEL, B.A. Western Michigan University 1997; M.A. Ohio University 2000; Ph.D. Michigan State University 2007; Associate Professor of English 2018, 2015.

KELLY KINNEY, B.A. Purdue University 1992; M.A. University of Nebraska-Omaha 1996; Ph.D. Ohio University 2005; Associate Professor of English 2015.

MICHAEL KNIEVEL, B.A. Creighton University 1995; M.A. 1997; Ph.D. Texas Tech University 2002; Associate Professor of English and Co-Director of Writing Program 2022, 2009, 2002.

CLIFFORD J. MARKS, A.B. University of Michigan 1983; M.A. State University of New York, Buffalo 1988; Ph.D. 1992; Associate Professor of English 2000, 1993.

JULIA OBERT, B.A. University of Western Ontario 2004; M.A. University of British Columbia 2006; Ph.D. University of California, Irvine 2011; Associate Professor of English 2016, 2011.

PETER PAROLIN, B.A. University of British Columbia 1988; M.A. University of Pennsylvania 1991; Ph.D. 1997; Associate Professor of English 2003, 1997.

JASON THOMPSON, B.A. Pacific Lutheran University 1996; MFA University of Arizona 2000; Ph.D. 2008; Associate Professor of English 2015, 2008.

ARIELLE ZIBRAK, B.A. University of Rochester 2003; M.A. Boston University 2007; Ph.D. 2013; Assistant Professor of English 2020, 2014.

NANCY SMALL, B.A. Texas A&M University 1992; M.A. 1994; Ph.D. Texas Tech University 2014; Associate Professor of English 2022, 2017.

Senior Lecturers:

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

RICK FISHER, B.A. University of Wyoming 2002; M.A. 2006; Ph.D. 2018; Senior Lecturer in English 2020, 2015, 2011.

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

JOYCE STEWART, B.A. Felician College 1994; M.A. Creighton University 1998; Senior Lecturer in English 2018, 2008.

Assistant Lecturers:

ASHLEY M. BURCHETT, B.A. The College at Southeastern 2016; M.A. North Carolina State University 2018; Assistant Lecturer in English and Co-Director of Writing Program 2022, 2019.

ALLISON GERNANT, B.A. Grinnell College 1996; M.A. University of Wyoming 2005; Assistant Lecturer in English & LeaRN 2015.

Study in the English department today emphasizes composition, literature, and rhetoric, creative and expository writing, and the nature and workings of language. Students in the department's programs can learn to read with pleasure and understanding, to write with grace, clarity and force, and to think with greater depth and breadth. With these accomplishments, students are prepared for lives and work in which their power to understand, read, write and communicate will serve themselves and others, some specifically in careers in writing or teaching, some in professions of law, medicine, administration or almost any other field.

Composition, Literature, and Rhetoric are traditions that reach back through the centuries, but these intellectual traditions are continually growing and changing. New theories of language help us reshape understandings of ancient traditions and enhance our lives as critical readers and writers and creative human beings.

Assessment of English Undergraduate Learning

Through an active and ongoing assessment of our program, we have identified the following outcomes that are expected of each student graduating with a Bachelor of Arts in English. We will continue to assess our curriculum to ensure these outcomes are being met:

UW students graduating with a Bachelor of Arts in English will have demonstrated an ability to:

1. Read, interpret, and write about a diverse range of texts in English, for example literature, film, digital media, and popular culture;
2. Understand those texts analytically and critically;
3. Understand those texts on the basis of careful close reading;
4. Understand those texts through past and current literary and rhetorical theory;
5. Understand that those texts are culturally constructed in time, place, and tradition;
6. Understand how those texts inform culture;
7. Participate in the critical and cultural discourses of English;
8. Participate clearly and appropriately through multiple spoken and written forms.

English Honors Program

Requires a 3.500 GPA and a senior honors paper and defense. See the English department web site for information.

Teacher Certification

Students seeking the B.A. in English may also be certified for public school teaching by completing additional requirements set forth by the College of Education, via a concurrent major in English and English Education.

Graduate Study

The M.A. graduate program in English offers three concentrations leading to the master of arts degree: Literary Studies, Composition and Rhetoric, and Public Humanities.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of English requires that students demonstrate by means of an official transcript that they have a solid undergraduate record with course work in English. That said, the department welcomes degrees in English or other disciplines from four-year colleges or universities.

Depending on their undergraduate preparation, some successful applicants may be required to take additional or specific courses toward the English master's degree.

Candidates must submit GRE general test scores, a writing sample, a 500-word statement of purpose, a CV/resume, and three letters of recommendation.

English offers both a campus-based M.A. degree and a low-residency/online M.A. degree. Students should consult the M.A. web site or contact the department for specific admission information and deadlines for both M.A. programs.

Program Specific Graduate Assistantships

Teaching assistantships are available to qualified applicants in the campus-based M.A. degree. Full assistantships carry an annual stipend and a remission of full-time tuition and fees, and require the teaching of one course per term.

Each fall the department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia for all graduate assistants. Each assistant is assigned an experienced teacher in the department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Creative Writing Program

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/creativewriting/
Program Director: Val Pexton

Professors:

ALYSON HAGY, B.A. Williams College 1982; M.F.A. University of Michigan 1985; Professor of Creative Writing 2008, 1996.

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2015.

FRIEDA E. KNOBLOCH, B.A. Cornell University 1985; Ph.D. University of Minnesota 1994; Professor of American Studies and Creative Writing 2014, 1997.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

KATE NORTHROP, B.A. University of Pennsylvania 1991; M.F.A. University of Iowa 1995; Associate Professor of Creative Writing 2008.

Senior Lecturers:

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

Creative Writing

We are writers. Our principles follow from what claims us as writers as we guide our students in the creation of their own work. We offer a commitment to art and to the development of community through art. We offer an immersion in making, a chance to discover, to create serious work without pretense, to collaborate, to shake off assumptions and anxieties.

To be first and foremost concerned with making does not mean we take refuge from the world. It means we begin by supporting the deepest, most intelligent engagement with what matters to us as writers. A critical distance from the literary and academic marketplaces allows us to engage with them in a more thoughtful manner once we have found our authentic calling-that which we are truly compelled to explore. Our values will never map perfectly onto the concerns of institutions, and that is good. We strive to create the finest conditions for the making of art when we remain in an eccentric orbit of our own, one that overlaps with the other orbits, yet remains, as much as possible, guided by our own principles which include:

Making: we require the serious, committed, ongoing process of writing and revision.

Range: we cultivate a diversity of taste, form, genre, experience, and background, as well as an open understanding of what might constitute professional accomplishment.

Flexibility: we invite our writers to pursue their own creative and intellectual goals, to tailor the program in individual ways.

Curiosity: we urge creative and intellectual roaming: cross-genre work, interdisciplinary study, the movement across what are usually understood as boundaries; we encourage students to imagine possibilities beyond what is already imagined for them by the program and the university.

Community: we foster an environment that sustains listening, investment in the work of others, collaboration, rigorous expectation, generosity and, at the same time, respect for solitude.

Integrity: we challenge students to engage in deep investigation, to find their intent as a writer and to commit to it fully.

Graduate Study

The Creative Writing Master of Fine Arts offers two areas of concentration: fiction and creative non-fiction.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this Catalog, the Creative Writing M.F.A. Program requires that students demonstrate by means of an official transcript that they have a solid undergraduate record. The M.F.A. program welcomes degrees in any discipline from four-year colleges or universities. Candidates submit three letters of recommendation, a writing sample consisting of no more than 25 pages of prose, a 500-word statement of purpose and

a vita. Students should consult the M.F.A. web site or contact the department for specific admission information and deadlines.

Program Specific Graduate Assistantships

We are a fully-funded program, meaning that we accept only as many students as we can support with graduate assistantships. Full assistantships carry an annual stipend and tuition waiver, and require the teaching of one section per semester, or equivalent work assignment. M.F.A. students are expected to teach freshman English.

Each fall, the English department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia. Each graduate assistant is assigned to an experienced teacher in the English department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Major

English, B.A.

Choose from two tracks in English: Literary Studies track or English Studies track. The former focuses on the study of literature and culture, while the latter balances literary study with courses in rhetoric and composition and professional writing.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Gateway to the English Major - 3 Hours

- ENGL 2025 - Introduction to English Studies Credits: 3

Historical Period - 12 or 15 hours

English Studies Track: 12 hours

Literary Studies Track: 15 hours

English Studies Track students take one of the following seven courses. Credits / Units: 3 or 6
Literary Studies Track students take two of the following seven courses. Credits / Units: 3 or 6

- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3
- ENGL 2360 - Mexican American Literature Credits: 3
- ENGL 2425 - Literatures in English I Credits: 3
- ENGL 2430 - Literatures in English II Credits: 3
- ENGL 2435 - Literatures in English III Credits: 3
- ENGL 2440 - Rhetoric & Writing Credits: 3

Take three of the following five courses: Credits / Units: 12

- ENGL 3200 - Topics in: Medieval Literature Credits: 3
- ENGL 3300 - Topics in: Renaissance Literature Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3
- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Expanding the Canon - 6 Hours

A full list of courses that fulfill the Expanding the Canon requirements will be published each semester. Generally speaking, these courses will cover topics related to racial diversity, global literatures, gender, sexuality, or disability studies. ENGL 2340/2350/2360 can be taken either as an Expanding the Canon course OR as an Historical Period course. The Expanding the Canon options are always changing, but will always include the following:

- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2345 - American Indians in Hollywood Film Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3
- ENGL 2360 - Mexican American Literature Credits: 3
- ENGL 3330 - Global Shakespeare in Performance Credits: 3
- ENGL 3610 - Non-Western Women Writers Credits: 3
- ENGL 4455 - Slavery and Freedom Credits: 1-4
- ENGL 3710 - Gender: Humanities Focus Credits: 3
- ENGL 4460 - American Indian Literature Credits: 3
- ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3
- ENGL 4450 - African American Novel Credits: 3
- ENGL 4470 - Studies in Chicano Folklore Credits: 3
- ENGL 4640 - Studies in Emerging Fields and Approaches Credits: 3

- Please note that only ENGL 4640: Postcolonial Literature & Theory counts towards the Expanding the Canon Requirement **unless otherwise specified in a given semester**.

Methods - 3 Hours

Chose the methods course that corresponds with your track.

Literary Studies Track:

- ENGL 3000 - Literary Theory Credits: 3
  OR
  English Studies Track:
- ENGL 3010 - Approaches to Rhetoric, Composition Pedagogy, and Professional Writing Credits: 3

Foundations of Language - 3 Hours

This requirement is for the English Studies Track only.

- ENGL 4780 - History of the English Language Credits: 3
  OR
- ENGL 4785 - Linguistics, Language Teaching and Social Context Credits: 3
  OR
- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3
  OR
- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3

Electives - 6 hours

Literary Studies: Students can select from any of our courses for credit in this category. One of the two electives must be in either Rhetoric & Composition or Creative Writing.

English Studies: Two courses from the list of Rhetoric/Composition/Professional Writing classes offered by English. See the examples below:

- ENGL 2005 - Writing in Technology and the Sciences (3 Credits)
- ENGL 2035 - Writing for Public Forums (3 Credits)
- ENGL 2125 - Writing Tutor Pedagogy/Practicum (3 Credits)
- ENGL 3020 - Culture, Communication, Work (3 Credits)
- ENGL 4010 - Technical Writing in the Professions (3 Credits)
- ENGL 4020 - Editing for Publication (3 Credits)
- ENGL 4025 - Writing for the Web (3 Credits)
- ENGL 4030 - Writing for Magazines (3 Credits)
- ENGL 4040 - Rhetoric, Media, and Culture (3 Credits)
- ENGL 4061 - Rhetorical Theory and Criticism (3 Credits)
- ENGL 4075 - Writing for Non-Profits (3 Credits)

Capstone - 3 Hours

Advanced standing in English is required for all majors prior to taking the senior seminar. To be eligible for advanced standing in English, the student must have completed 24 hours of English coursework above COM1, including the required 2000-level Historical Period courses. Each course must have been passed with a grade C or better. Approved transfer courses from other institutions will satisfy the prerequisites for advanced standing. ENGL 4999 should be taken in the next to last semester before graduation.

- ENGL 4999 - Senior Seminar Credits: 3

Additional Requirements

All English Education students are required to take the English Studies track. Students should consult with an advisor to declare a track in Literary Studies or English Studies before their junior year.

The English major requires 36 hours of work within the major and an additional 12 hours of a single foreign language. 21 of the hours within the major must be taken at the upper division. Only those courses in which a grade of C or better has been earned may count toward the 36 hours required for the B.A. and the foreign language requirement. No 1000-level courses count toward the B.A.

Prerequisites

Most 2000-level courses require the completion of the COM1 requirement. Normally, 3000-level courses have the COM1, ENGL 2025, and one 2000-level "broad historical sweep" course (one of ENGL 2425, ENGL 2430, ENGL 2435, ENGL 2340, ENGL 2350, ENGL 2360) as prerequisites, and 4000-level courses have 6 hours of 2000-level English courses as prerequisites. Students without certain prerequisites should consult the English department for permission to enroll.

Minor

Creative Writing Minor

The Creative Writing Minor teaches the fundamentals of creating original work while providing opportunities for the exploration of blended genres and interdisciplinary work. A minor in Creative Writing complements majors from a wide array of departments and colleges.

Creative Writing Minor

Minor in Creative Writing. The creative writing minor consists of six courses (18 hours) in creative writing and literature. Four of these courses will be in creative writing (12 hours) and must adhere to the following sequence: CW 1040 Intro to Creative Writing, two Lower Division Creative Writing courses (at the 2000-level), and an Upper Division course (4050). (excluding CW 2200 from lower-division courses). In addition, two courses will be in literature (6 hours). All courses must be completed with grades of C or better.

This minor is intended to be used with any major and must be designed in conjunction with a creative writing advisor. Each course must be passed with a grade of C or better.

Literary Studies Minor

Focuses on the study of literature, media, and culture. Courses address texts from various historical periods and regions and the work of a diverse range of voices.

Requirements

- ENGL 2025 - Introduction to English Studies Credits: 3

Historical Period Classes: 6 Hours

Take any 2 of the following historical period courses:

- ENGL 2425 - Literatures in English I Credits: 3
- ENGL 2430 - Literatures in English II Credits: 3
- ENGL 2435 - Literatures in English III Credits: 3
- ENGL 2440 - Rhetoric & Writing Credits: 3
- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3
- ENGL 2360 - Mexican American Literature Credits: 3
- ENGL 3200 - Topics in: Medieval Literature Credits: 3
- ENGL 3300 - Topics in: Renaissance Literature Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3
- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Upper Division Literature Courses: 9 Hours

Take 3 additional upper-division literature courses. Electives cannot be used for both the Historical Period requirement and this requirement. Please consult with department for options beyond this list.

- ENGL 3100 - Tribal Literatures of the Great Plains Credits: 3
- ENGL 3150 - World Literature Credits: 3
- ENGL 3200 - Topics in: Medieval Literature Credits: 3
- ENGL 3300 - Topics in: Renaissance Literature Credits: 3
- ENGL 3330 - Global Shakespeare in Performance Credits: 3
- ENGL 3340 - Philosophy in Literature Credits: 3

- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3
- ENGL 3600 - Topics in: 20th Century Literature Credits: 3
- ENGL 3610 - Non-Western Women Writers Credits: 3
- ENGL 3710 - Gender: Humanities Focus Credits: 3
- ENGL 4080 - Film Genre Studies (TOPIC) Credits: 3
- ENGL 4070 - Film Directors: Credits: 3
- ENGL 4090 - Film and Religion Credits: 3
- ENGL 4230 - Greek Tragedy Credits: 3
- ENGL 4270 - Classical Epic Poetry Credits: 3
- ENGL 4450 - African American Novel Credits: 3
- ENGL 4455 - Slavery and Freedom Credits: 1-4
- ENGL 4460 - American Indian Literature Credits: 3
- ENGL 4470 - Studies in Chicano Folklore Credits: 3
- ENGL 4480 - Regional Literature of the US: The West Credits: 3
- ENGL 4600 - Studies in (TOPIC) Credits: 1-6
- ENGL 4640 - Studies in Emerging Fields and Approaches Credits: 3
- ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3

Professional Writing Minor

Focuses on the modes of written, oral, and digital communication that working professionals use in their fields. Courses address topics like grant-writing, writing for the web, and publication editing.

Requirements

Foundations Course: 3 Hours

- ENGL 2035 - Writing for Public Forums Credits: 3
  OR
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (COM2)

Program Electives: 6 Hours

Take any 2 of the following courses:

- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4020 - Editing for Publication Credits: 3
- ENGL 4025 - Writing for the Web Credits:
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENGL 4970 - Writing Internship Credits: 3

Other Electives: 6 Hours

Courses from any discipline that relates to professional writing; consult with a Professional Writing Minor advisor.

Professional Writing Minor Capstone: 3 Hours

- ENGL 4000 - 21st Century Issues in Professional Writing Credits:

Graduate

Creative Writing, M.F.A.

This fully-funded MFA program is dedicated entirely to prose. We teach a wide range of courses in fiction, nonfiction, and hybrid forms. We offer award-winning faculty and prepare graduates to release books with prominent commercial and small-press publishers.

Additional Information

M.F.A. students follow the guidelines for a Plan A thesis. Only those courses in which a grade of B or better has been earned may be applied to the graduate program of study. All courses must be taken for a grade unless offered for S/U only. No graduate credit is allowed for grades S and U.

The cumulative GPA must be at least 3.000 to receive a degree. Courses below 4000-level will not count toward the degree nor will they be figured in the GPA, although they will appear on the transcript.

A minimum of four Workshops (CW 5560) and/or Creative Writing Seminars (CW 5540) must be taken. These may be in any combination to reach the four-course total, typically for a total of 12-16 credit hours. We require a cross-genre component in that mix of courses.

Requirements

- Elective courses (typically taken for a total of 18 credit hours)

- ENGL 5900 - Practicum in College Teaching Credits: 1-3 taken in semesters teaching 1010, 1 credit per semester
- ENGL 5010 - Rhetoric and Composition: History, Theory, Practice Credits: 1-4 taken in the first semester teaching 1010, 3-4 credits (can be waived if a student has taken a comparable graduatelevel course in a prior program)
- Other electives: free to be taken in any UW program or department across campus
- Thesis Hours (5960): 4 credit hours

Total Credits: 36 Hours (Minimum)

Total credit hours must be a minimum of 36.

English, M.A.

Advanced graduate study in English Studies. Students can select from one of three tracks: literary studies; rhetoric, composition, and writing studies; or public humanities.

Required Courses

The following courses are required for all concentrations:

- ENGL 5010 - Rhetoric and Composition: History, Theory, Practice Credits: 1-4 Taken first semester.
- ENGL 5530 - Modern Critical Theory and Practice Credits: 1-4 Taken second semester.
- ENGL 5960 - Thesis Research Credits: 1-12 Taken third semester in classroom.

Electives

Additional coursework can be taken from the following courses.

- ENGL 5000 - Studies In: Credits: 1-8
- ENGL 5020 - Public-Facing English Studies Credits: 1-4
- ENGL 5050 - Writing in Public Genres Credits: 1-4
- ENGL 5055 - Narrative and Storytelling Credits: 1-4
- ENGL 5061 - Rhetorical Theory and Criticism Credits: 1-4
- ENGL 5062 - Ancient Rhetorics Credits: 1-4
- ENGL 5063 - Feminist Rhetorics Credits: 1-4
- ENGL 5070 - Qualitative Methods in English Credits: 1-4
- ENGL 5071 - Qualitative Analysis Credits: 1-4
- ENGL 5072 - Topics in Technical Writing Credits: 1-4

- ENGL 5073 - Topics in Rhet-Comp & Tech-Com Credits: 1-4
- ENGL 5074 - Studies in Civic Discourse Credits: 1-4
- ENGL 5075 - Non-Profit Writing and Grants Credits: 1-4
- ENGL 5220 - Studies in Medieval Literature Credits: 1-4
- ENGL 5230 - Studies in English Renaissance Literature Credits: 1-4
- ENGL 5250 - Studies in Shakespeare Credits: 1-4
- ENGL 5270 - Studies in 18c English Literature Credits: 1-4
- ENGL 5280 - Studies in 19c English Literature Credits: 1-4
- ENGL 5290 - Studies in 20c English Literature Credits: 1-4
- ENGL 5310 - Early American Literature Credits: 4
- ENGL 5320 - Studies in 19c American Literature Credits: 1-4
- ENGL 5330 - Studies in 20c American Literature Credits: 1-4
- ENGL 5340 - Intellectual Currents in Modern American Literature Credits: 1-4
- ENGL 5350 - Global Literatures in English Credits: 1-4
- ENGL 5355 - Global Englishes Credits: 1-4
- ENGL 5360 - Literatures of Diversity Credits: 1-4
- ENGL 5455 - Slavery and Freedom Credits: 1-4
- ENGL 5520 - History of Literacy Criticism: Enlightenment and 19th Century Credits: 4
- ENGL 5600 - Research in Writing Studies Credits: 1-4
- ENGL 5830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3
- ENGL 5835 - Writing Program Administration Credits: 1-4
- ENGL 5880 - Studies in Modern Fiction Credits: 4
- ENGL 5885 - Studies in Popular Culture Credits: 1-4
- ENGL 5890 - Consumption, Markets, Cultures Credits: 1-4
- ENGL 5900 - Practicum in College Teaching Credits: 1-3

- ENGL 5975 - Independent Studies Credits: 1-4
- ENGL 5964 - Thesis Writing Workshop Credits:
- ENGL 5965 - Thesis Research II Credits: 1-3

Additional Requirements

The concentration insures coherence in each student's graduate program; breadth is insured by a distribution of courses. Much of each student's program is taken in courses outside the concentration.

Literary Studies. Working from a variety of perspectives, this concentration focuses on the study of literature and of other culturally significant texts and materials, including, for example, film, oral materials, and political documents.

Rhetoric, Composition, and Writing Studies. This concentration emphasizes scholarship on the production of discourse, broadly conceived, and may include a focus on classical, contemporary, or cultural rhetoric; post-secondary writing pedagogy and program administration; community and adult literacy; or other subjects related to the field of writing studies.

Public Humanities. Designed for students who wish to pursue professions that may span beyond traditional academic work, this concentration prepares graduates for careers in civic, nonprofit, and community-based cultural organizations that engage the humanities, contribute to social reform, and promote the public good.

Minimum coursework required for Plan A Thesis: 26 hours Minimum thesis hours required: 4 hours See program website for course offerings in a given semester. All coursework must be at the 5000-level. **Minimum coursework required for Plan B Thesis (students in online program only): 30 hours coursework minimum**

Plan A Thesis: a reading list exam and a Plan A thesis with oral defense. Students may write a traditional thesis, or they may assemble a public-facing thesis portfolio. See program website for more details about thesis options.

Plan B Thesis: coursework portfolio, including pedagogical reflection essay, with oral defense.

Program Specific Admission Requirements

Those interested in graduate study in this program, are encouraged to contact the Department of English (307-766-6452, englishdept@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required.
- A minimum of three letters of recommendation from:
    - current or former college/university instructor(s) of the applicant; and/or
    - current or previous professional supervisor(s) of the applicant.
- A 500-word statement of purpose that contains the applicant's:
    - Professional/career goals.
    - Educational goals, including planned concentration.
    - Statement of how the graduate program will help the applicant attain their educational and professional goals.
    - Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
    - Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.
    - Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).

    - Any special skills or competencies (including any certifications or licenses).
    - List of publications, prizes, awards, or other recognitions.
    - List of service/volunteer activities.
- A 10-15 page critical writing sample.

Applications must be submitted by no later than February 1 to be considered for fall admission.

GRE scores are recommended for admission, but not required. The recommended minimum cumulative GRE score for admission is 291. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. Applicants must present evidence of a satisfactory background in English coursework.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. A minimum of 605 on the Paper-based TOEFL and of 5.0 on the TWE are required. Equivalent minimums = 101 on the Internet-based TOEFL with a minimum of 25 on the writing section or 7 on the IELTS. International students with Teaching Assistantships require proof of English speaking proficiency: Advanced-Mid on OPIc or TOEFL speaking score of 23, or IELTS speaking score of 6.5, or DuoLingo average score of 105. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Applicants to the online MA program whose undergraduate cumulative GPA is below 3.0 may be considered via the Professional Experience Track Admissions process if they have had at least two years of relevant professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog.

English, Ph.D.

The English, Ph.D. with an emphasis in the public humanities is a doctoral degree that bridges the skills in research, rhetorical analysis, critical reading, and document design traditional to English studies with a deep investment in public advocacy and community engagement.

Degree Requirements

The English PhD in the Public Humanities will be a four-year degree requiring 36 hours coursework beyond their master's coursework, plus 8 additional hours of dissertation research.

Required Courses (20 coursework credits, 8 dissertation research credits)

Students take courses in three areas: 1) working in the classroom and beyond, 2) writing and storytelling, and 3) literature, rhetoric, and culture. 20 coursework credits and 8 thesis research credits are required.

Working in the Classroom and Beyond (12 credits)

- ENGL 5011 - Professional and Technical Communication: Histories, Theories, and Public Engagement Pedagogies. 4 Credit Hours
- ENGL 5020 - Public-Facing English Studies Credits: 1-4
- ENGL 5071 - Qualitative Analysis Credits: 1-4

Writing and Storytelling (4 credits; choose one)

- ENGL 5050 - Writing in Public Genres Credits: 1-4

- ENGL 5075 - Non-Profit Writing and Grants Credits: 1-4

Literature, Rhetoric, and Culture (4 credits; choose one)

- ENGL 5062 - Ancient Rhetorics Credits: 1-4
- ENGL 5063 - Feminist Rhetorics Credits: 1-4
- ENGL 5065 - Black American Rhetorics Credits: 1-4
- ENGL 5074 - Studies in Civic Discourse Credits: 1-4
- ENGL 5220 - Studies in Medieval Literature Credits: 1-4
- ENGL 5230 - Studies in English Renaissance Literature Credits: 1-4
- ENGL 5250 - Studies in Shakespeare Credits: 1-4
- ENGL 5270 - Studies in 18c English Literature Credits: 1-4
- ENGL 5280 - Studies in 19c English Literature Credits: 1-4
- ENGL 5290 - Studies in 20c English Literature Credits: 1-4
- ENGL 5310 - Early American Literature Credits: 4
- ENGL 5320 - Studies in 19c American Literature Credits: 1-4
- ENGL 5330 - Studies in 20c American Literature Credits: 1-4
- ENGL 5350 - Global Literatures in English Credits: 1-4
- ENGL 5360 - Literatures of Diversity Credits: 1-4
- ENGL 5455 - Slavery and Freedom Credits: 1-4
- ENGL 5885 - Studies in Popular Culture Credits: 1-4
- ENGL 5890 - Consumption, Markets, Cultures Credits: 1-4

Other Required Credits (12 credits)

- ENGL 5900 - Practicum in College Teaching Credits: 1-3
- ENGL 5960 - Thesis Research Credits: 1-12
- ENGL 5965 - Thesis Research II Credits: 1-3

Elective Courses (12 coursework credits; up to 8 credits outside English)

12 credits are available for electives, selected in consultation with the student's advisor and committee. At least 4 and up to 8 credits will be from units outside English. Electives aim to introduce methods and concepts from multiple disciplines and public-facing fields of study with both community and/or global relevance. When resources permit, students will be advised to enroll in courses such as the following, pending home-department approval and faculty interest.

- ENGL 5000 - Studies In: Credits: 1-8
- AMST 5020 - American Folklife Credits: 3
- AMST 5200 - Material Culture Credits: 3
- AMST 5300 - American Culture and the Public Sector Credits: 3
- AMST 5800 - Historic Preservation Credits: 3
- ENR 5870 - Graduate Seminar Credits: 1
- HIST 5630 - Seminar on Western American History Credits: 3
- HIST 5645 - Seminar on American Indian History Credits: 3
- LTST 5650 - Women, Gender & Migration Credits: 3

- NAIS 5110 - Foundations of American Indian Education Credits: 3
- NAIS 5141 - Instructional Methods of American Indian Education Credits: 3
- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- STAT 5220 - Advanced Design Credits: 3

Department of History

History

History Building

(307) 766-5101

Website: www.uwyo.edu/history

E-mail: uwhistory@uwyo.edu

Department Chair: Jeffrey Means

Professor:

RENEE LAEGREID, B.A. Washington State University 1982; M.A.L.S. Wesleyan University 1994; Ph.D. University of Nebraska 2002; Professor of History 2015, 2012.

Associate Professor:

ISADORA A. HELFGOTT, B.A. Swarthmore College 1994; A.M. Harvard University 1997; Ph.D. 2006; Associate Professor of History 2015, 2009.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Assistant Professor of History and Anthropology 2014.

JEFFREY D. MEANS, B.A. Grand Canyon University 1995; M.A. University of Montana 2001; Ph.D. University of Oklahoma 2007; Associate Professor of History 2013, 2007.

Assistant Professor:

ADAM BLACKLER, B.A. Carroll College 2006; M.A. University of Wyoming 2009; Ph.D. University of Minnesota - Twin Cities 2017; Assistant Professor of History 2018.

BARBARA E. LOGAN, B.A. Queens College, CUNY 1986; Ph.D. University of California-Santa Cruz 2002; Assistant Professor of History 2018, 2011.

MELISSA MORRIS, B.A. Miami University 2004; M.A. Miami University 2010; Ph.D. Columbia University 2017; Assistant Professor of History 2018.

PETER WALKER, B. A. University of Oxford 2008; M. Phil. University of Oxford 2010; Ph. D. Columbia University 2016; Visiting Assistant Professor of History 2019.

Adjunct Faculty:

MICHAEL J. DEVINE, B.A. Loras College 1967; M.A. Ohio State University 1968; Ph.D. 1974; Adjunct Professor of History, 2014, 1991.

Professors Emeriti:

Eric D. Kohler, William H. Moore, Phil Roberts

History Program

History is a foundational discipline that blends the methodologies and perspective of the humanities and social sciences in order to engage with the history of human culture on a global scale. UW's History degree program emphasizes interdisciplinary teaching and research and provides course work, research experiences, and internships on both American and international topics. The History program offers a Bachelor of Arts degree major, minor, Public History Concentration, and a Master of Arts degree.

The study of History at the University of Wyoming provides students with the tools to comprehend the present in order to prepare for the future. Challenging courses are designed to facilitate critical thinking and the development of analytical skills. Each of our courses features the discussion of complex issues, the development of writing and reading skills, and is generally oriented toward promoting individual enrichment. The professional skills that the History program instills transcend our field and allow students to work toward a variety of career choices such as business, law, government service, public history, archives and museum work, education, management, writing, and graduate studies. The ability to develop perspective, render informed judgments, and function as productive citizens of the global community stand as hallmarks of our program.

Learning Outcomes

It is the goal of the History department that our graduates have the following skills and knowledge:

- Students shall be able to demonstrate thinking skills by analyzing, synthesizing, and evaluating historical information from multiple sources.
- Students will develop the ability to distinguish between fact and fiction while understanding that there is no one historical truth.
- Students will produce well-researched written work that engages with both primary sources and the secondary literature.
- Students will develop an informed familiarity with multiple cultures.
- Students will employ a full range of techniques and methods used to gain historical knowledge.
- Students will develop an ability to convey verbally their historical knowledge.
- Students will demonstrate their understanding of cause and effect along with their knowledge of the general chronology of human experience.

Major

History, B.A.

A History B.A. provides the skills needed to succeed in any job, public history, archive and museum work, law, education, business and more. Skills mastered include critical thinking, multi-perspective analysis, and written and oral communication.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

History Requirements

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements - including the language requirement - must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department of Languages - Modern and Classical. This requirement may be satisfied by American Sign Language.

Two Required Courses: 6 Hours

- HIST 3020 - Historical Methods Credits: 3

AND

- HIST 4030 - Senior Capstone Seminar Credits: 3

Elective: Any Level: 3 Hours

One additional History course at any level.

Lower-Division Electives: 12 Hours

Lower-Division courses are 1000 and 2000 level courses.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4

- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3

Upper-Division Electives: 15 Hours

Upper-Division courses are 3000 and 4000 level courses.

- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3

- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

History, Public History Concentration, B.A.

Want work in a museum, historical site, park, archive, historical consulting firm, establishing and operating archives and records management systems for private businesses, state agencies, or universities, and more? Then public history is for you.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Public History Concentration

Combined with the History B.A. requirements (below,) students can declare a Public History Concentration. The History B.A. requires a minimum of 36 credit hours in History courses, and 18 of those can qualify to meet the Public

History Concentration requirements. The Public History Concentration requires a minimum of 18 hours of History coursework that may be tailored for individual student career goals.

Specific course requirements for the Public History Concentration are as follows:

Required Courses for Public History Concentration

HIST 2050 - Introduction to Public History

HIST 2070 - Introduction to Museology

HIST 3020 - Historical Methods

HIST 4400 - Internship

Elective courses for Public History Concentration

2 of the following courses:

HIST 4055 - Archival Research Methods

HIST 4077 - Book History: Topics

HIST 4315 - History, Politics and Memory of the Holocaust in Europe

HIST 4320 - Memory and National Identity in Twentieth Century Europe

HIST 4400 - Internship (Students are allowed 2 Internship courses if approved by an advisor)

History BA Requirements

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements - including the language requirement - must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department of Languages - Modern and Classical. This requirement may be satisfied by American Sign Language.

Two Required Courses: 6 Hours

- HIST 3020 - Historical Methods Credits: 3
  AND
- HIST 4030 - Senior Capstone Seminar Credits: 3

Elective: Any Level: 3 Hours

One additional History course at any level.

Lower-Division Electives: 12 Hours

Lower-Division courses are 1000 and 2000 level courses.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3

- HIST 2075 - Museology II Credits: 3

Upper-Division Electives: 15 Hours

Upper-Division courses are 3000 and 4000 level courses.

- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3

- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

Minor

History Minor

Only 18 credit hours of classes to learn professional skills vital to any career. Critical thinking, effective written and oral communication, and multi-perspective analysis highlight History's benefits in whatever profession you pursue.

Requirements

The history minor requires at least 18 credit hours of History courses, 9 hours of which must be Upper-Division (3000 and 4000 level) courses. These courses must be taken for letter grades with a minimum earned grade of C. For assistance in tailoring the minor content, contact the Department of History.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3

- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3
- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3

- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

Graduate

History, M.A.

Wyoming's M.A. in history will open both professional and academic pathways. A student may pursue this degree as the final step in their educational journey or go on to pursue a doctoral degree and, eventually, a teaching or research position.

Program Specific Admission Requirements

General Regulations

The M.A. in History requires 18 hours of undergraduate history courses as minimum preparation for admission. The rules under which the student enters remain those governing the program for the duration of the student's continued enrollment. In accordance with university graduate regulations, students are responsible for meeting all deadlines and for fulfilling all requirements for the degree.

Application and Admissions

To be eligible for financial support in the form of a Graduate Assistantship, the Department of History must receive all materials by March 1. All other application materials must be received by the Department of History no later than May 1. The application process is now completely online. In addition to the application, applicants must upload the following documents via the UW Admissions website (www.uwyo.edu/admissions):

1. Three letters of recommendation that assess the student's academic and research abilities.

2. Transcripts from all undergraduate institutions and graduate programs.
3. A writing sample of 10-20 pages, typically either a portion of a senior thesis or an upper-level seminar paper.
4. A statement of purpose of 250-500 words, explaining the applicant's preparation, interests, and plans. Please indicate if you would like to be considered for a graduate assistantship.

Program Specific Graduate Assistantships

When applicants submit their materials to the program in History, they should indicate their wish to be considered for a Graduate Assistantship. Anyone receiving financial support must be registered as a full-time (9 hours per semester) student and must be making acceptable progress towards degree completion. Renewal of Graduate Assistantships is contingent on such progress. Support is not given for more than two academic years.

Requirements

Program Specific Degree Requirements for the History Master's Program are as follows:

Required Courses

Candidates for the Master of Arts degree are expected to complete the program in 2 years. Graduate Students are required to complete a minimum of 31 credit hours of graduate (5000) level courses. Students must complete 27 hours of coursework, of which at least 24 hours must be in History. Students will work with their advisor to plan the course of study that will include:

(3 credit hours) HIST 5880 - History Theory

(12 credit hours) 5000-level, non-dual-listed courses in HIST (excluding HIST 5880)

(12 credit hours) Additional graduate-level course work, of which at least 9 credit hours must be in HIST courses.

(4 credit hours) HIST 5960 - Thesis Research

Foreign Language

Students must demonstrate a reading knowledge of a foreign language appropriate to their research. In special cases, other relevant historical tools may substitute for the language requirement upon approval of the thesis adviser and the Graduate Coordinator. Generally, either of the following options may meet the language requirement:

- Passing a language exam administered by the Department of History. This must be completed by the end of the first year with the appropriate faculty.
- Completing the equivalent of the fourth semester of a language as offered at the University of Wyoming. All courses must be passed with a grade of C or better (may be taken pass/fail).

Thesis

- Graduate students will identify two "fields" of study, in consultation with their main advisor: one time/place field (such as Modern U.S. History), and one thematic field (such as Environmental History), both of which correspond to the student's thesis research.
- In the spring semester of the first year the student will publicly defend his/her thesis proposal, which must include a written research prospectus and bibliography.

- At the end of the second year the student will successfully defend the thesis before an approved Graduate Committee.

Department of Languages - Modern and Classical

116 Hoyt Hall, (307) 766-4177
FAX: (307) 766-2727
Website: www.uwyo.edu/modlang
Department Chair: Joy Landeira

Professor:

CONXITA DOMÈNECH, B.A. Universitat Autònoma de Barcelona 1990; Licenciatura 1992; M.A. University of Colorado Boulder 2006; Ph.D. 2010; Professor of Spanish 2020.

JOY LANDEIRA, B.A. University of Wyoming 1973; M.A. 1975; Ph.D University of Colorado, Boulder 1981. Professor of Spanish 2015. Department Chair.

Associate Professors:

EKATERINA ALEXANDROVA, B.A. Saint Joseph's University 2003; M.A. Dartmouth College 2004; Ph.D. University of Pennsylvania 2012; Associate Professor of French 2018, 2012.

IRENE CHECA-GARCÍA, B.A. University of Granada 1997; M.A. Linguistics University of Granada 2000; Ph.D. Universidad de Alemería 2004; Associate Professor of Spanish 2018, 2012.

REBECCA E. STEELE, B.A. LeibnitzAcademie 2001; M.A. Rutgers, The State University of New Jersey 2008; Ph.D. 2009; Associate Professor of German 2015, 2009.

KHAMA-BASSILI TOLO, G3: Gradué en Pédagogie Appliquée, Option: FrancaisLinguistique Africaine, Université Nationale du Zaire 1976; L2: Licencié en Pédagogie Appliquée, Option: Francais, 1978; M.A. Vanderbilt University 1986; Ph.D. 1989; Associate Professor of French 1996, 1990.

Assistant Professors:

CHELSEA ESCALANTE, B.A. Stanford University 2005; M.A. University of Arizona 2009; Ph.D. University of California, Davis 2018; Assistant Professor of Spanish 2018.

SONIA RODRIGUEZ HICKS, Ph.D. University of New Mexico 2017. Assistant Professor of Spanish 2020.

Senior Academic Professional Lecturers:

LAURA DE LOZIER, B.A. Beloit College 1990; M.A. University of Wisconsin 1992; Ph.D. 2002; Senior Academic Professional Lecturer in Classics, Greek, and Latin 2014, 2003.

BÉNÉDICTE SOHIER, B.A. Stephen F. Austin State University 2006; M.A. Indiana University Bloomington 2008; Associate Academic Professional Lecturer in French 2015, 2009.

YAN ZHANG, B.A. Harbin Institute of Technology 2000; M.A. Heilongjiang Provincial Academy of Social Sciences 2002; Senior Academic Professional Lecturer in Chinese 2016, 2006.

Assistant Lecturers

NOAH MILES, B.A. University of Iowa 2005; M.A. University of Iowa 2007; Assistant Lecturer in Japanese 2022.

ADRIANA NOYA-SALGUIERO, B.A. Universidad Complutense de Madrid 1991; M.A. Universidad Complutense de Madrid 1993; M.A. University of Wyoming 2017; Assistant Lecturer in Spanish 2022.

Professors Emeriti:

M. Ian Adams, Lewis Bagby, Lowell A. Bangerter, Klaus D. Hanson, Francis S. Heck, Philip G. Holt, Joseph Krafczik, Hannelore Mundt, Jean-Louis G. Picherit, Duane Rhoades, Pavel Sigalov. Mark W. Person.

The Modern and Classical Languages department offers work leading to the B.A. degree with majors and minors in French, German, and Spanish. A minor is offered in Classical Civilizations, Chinese, Latin and Japanese. The M.A. is available in Spanish. Courses are also offered in literature, linguistics and translation.

Foreign Language Requirements

All candidates for the B.A. and B.S. degree in the College of Arts and Sciences who matriculated before Fall 2015 are required to complete the equivalent of 8 semester hours of work in a single modern or classical language. Students with prior exposure to the language may be granted college credit after taking an online examination administered by the department; students must take this examination before completing registration for a language course (for regulations governing credit by examination, refer to Credit Available to Undergraduate Students in this *Catalog*). An advanced placement, AP, examination in the language with a score of 4 or higher satisfies the language requirement in most languages, as do CLEP and IB scores (see section on Credit by Examination on the department website).

Students who have had a foreign language in high school should take the online examination to determine the course in which they should enroll and to avail themselves of the opportunity to receive credit by examination. Students who have completed their language requirement can enroll for additional language courses of their choice, something strongly advised for those who wish to reach adequate levels of proficiency in the language or wish to study abroad. Check the Catalog or website for special sections targeted for students with varied experiences in the language.

Undergraduate Major

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Students completing an undergraduate major in our department will meet the following learning goals:

1. attain proficiency in another language in all four of the basic skills (speaking, listening, reading, and writing);
2. gain understanding of other cultures; and
3. develop skills in research critical thinking, analysis, and writing on subjects appropriate to the field of study.

Students will meet the following learning outcomes to:

1. demonstrate proficiency in conversation;
2. demonstrate reading comprehension of texts written in the language;

3. produce grammatical, idiomatic compositions in the target language;
4. gain essential knowledge about the history, traditions, customs, and ways of thinking of at least one other culture;
5. demonstrate understanding of works of literature read in the original language; and
6. produce well-reasoned and clearly articulate research papers on subjects appropriate to their field.

Minor

In general, students desiring to complete a minor in a foreign language will be required to complete a program of 18 semester hours above 2030.

Teaching Certification

For those wishing to pursue teaching certification, contact the Department of Secondary Education.

Native Language Credit

Students are not allowed university credit for language courses in their native language below the 4000 level, but may receive credit for literature courses below that level.

Study Abroad

There are many opportunities for students to study abroad and students are encouraged to do so.

Graduate Study

The Department of Modern and Classical Languages offers programs leading to the master of arts degree in Spanish. Contact the department for further details or check the department website.

Program Specific Admission Requirements

Admission to the graduate program in a specific language is open to students who have completed an undergraduate major, or the equivalent, in the same subject and who meet the minimum requirements set forth in this *Catalog*.

Students entering the graduate program from other institutions may be required to make up deficiencies in areas covered by required courses in this department's undergraduate programs.

Major

European Languages, Literature and Film Studies, B.A.

The BA European Languages, Literature and Film Studies curriculum builds upon existing UW language minors and established humanities coursework in French, German, and Spanish.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

C2 - Communication 2 Options:

- FREN 3050 - Third Year French I Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3 OR INST 2280
- SPAN 3050 - Third Year Spanish I Credits: 3
  OR
  SPAN 3030

C3 - Communication 3 Options:

- FREN 4200 - Introduction to Research Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Required Interdisciplinary Coursework that all Majors Take = 12 Credits

Taught in English with bilingual option taught in English and the target language.

- HIST 2280 - Introduction to European Studies Credits: 3 (Cross-listed with INST 2280)
  OR
- HIST 4990 - Topics in _____ Credits: 1-6

- LANG 1000 Intro to Film Studies (3 credits)
- LANG 4300 Fundamentals of Linguistics for Non-Linguists (3 credits)
- LANG 4800 Advanced Instruction in Film Studies (3 credits)

FRENCH TRACK-- 30 Credits of French Coursework (plus USP Com 2 and Com 3)

- FREN 1010 - First Year French I Credits: 4
- FREN 1020 - First Year French II Credits: 4
- FREN 2030 - Second Year French I Credits: 4
- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3

GERMAN TRACK: 30 credits of German Coursework, 3 courses of which are in residency

- GERM 1010 - First Year German I Credits: 4
- GERM 1020 - First Year German II Credits: 4
- GERM 2030 - Second Year German I Credits: 4
- GERM 2040 - Second Year German II Credits: 3
- Plus 9 credits of 3000+level German Electives
- Plus 5 credits of German Electives (could incl: GERM conversation, LANG 2000 GERM for Specific Purposes, LANG 4800 WLD or SPARK Internship. Up to 16 credits can be earned in Study Abroad in place of required coursework.)

SPANISH TRACK: 31 credit hours of Spanish Coursework (plus USP Com 2 and Com 3 listed above)

- SPAN 1010 - First Year Spanish I Credits: 4
- SPAN 1020 - First Year Spanish II Credits: 4
- SPAN 2030 - Second Year Spanish I Credits: 4
- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 2140 - Introduction to Reading Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4180 - Advanced Cultural Studies in Hispanic Lit/Media Credits: 3

Recommended Elective Courses

Interdisciplinary European coursework taught in English or target language, with bilingual option

- CLAS 4990 - Topics in Classical Civilization Credits: 1-4
- CLAS 4230 - Greek Tragedy Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- GERM 1101 - First-Year Seminar Credits: 3
- GERM 3050 - Third Year German I Credits: 3

- GERM 3060 - Introduction to German Literature Credits: 3
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6
  *HIST 4990 Nazi Germany and the Holocaust (3 credits)
  *HIST 4990 Europe after 1945 (3 credits)
  *HIST 4990 Weimar Germany: Hope and Tragedy (3 credits)
- INST 2200 - Politics of Europe Credits: 3 OR POLS 2200
- INST 4215 - European Union Credits: 3
- INST 4315 - History, Politics and Memory of the Holocaust in Europe Credits: 3
- LANG 2000 Intro to Languages for Specific Purposes (3 credits)
- LANG 3000 Language for Specific Purposes-Variable Topics (3 credits)
- LANG 4800 World Language Day (up to 3 credits) LANG 4800 Día de los muertos (up to 3 credits)
- LANG 4800 European folk tales (3 credits) LANG 4800 Masterpieces of European Literature in Translation (3 credits)
- LANG 4800 Advanced Study in German Conversation (up to 5 credits)
- LANG or SPAN 1101 FYS-The Linguistics of Food (3 credits)
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- SPAN 3100 - Survey of Spanish Literature Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- THEA 1000 - Introduction to Theatre, TV & Film Credits: 3

Total Credit Hours: 121 Credits

French, B.A.

The main goal of French courses will be to emphasize "the development of communication skills in French through the four language skills: listening, speaking, reading, and writing". Each course introduces students to French and Francophone cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites - 12 Credits

- FREN 1010 - First Year French I Credits: 4
- FREN 1020 - First Year French II Credits: 4
- FREN 2030 - Second Year French I Credits: 4

A language major requires 30 hours of credit in a single language above 2030

Required Courses

- FREN 2040 - Second Year French II Credits: 3
- FREN 2130 - Contemporary French Culture Credits: 3
  OR
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- Plus 6 hours of electives in French at the 4000-level (See Electives list in Minor Requirements)

Minor Program Requirements - 18 Credit Hours

Required Minor Classes

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- Electives - 9 hours of French Courses at the 3000 course level or 4000 course level (Choose from Elective list below)
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 3990 - Independent Study Credits: 1-4
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- FREN 4120 - Medieval French Literature Credits: 3
- FREN 4140 - 17th Century French Literature Credits: 3
- FREN 4200 - Introduction to Research Credits: 3
- FREN 4250 - 19th Century French Literature Credits: 3
- FREN 4260 - 20th Century French Literature Credits: 3
- FREN 4350 - Studies in French and Francophone Literatures Credits: 3
- FREN 4990 - Advanced Independent Study Credits: 1-3

German, B.A.

As a German Major, you will develop your speaking, listening, and communication skills as a German speaker. You will gain a better understanding of perspectives and experiences of German speaking cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses - 9 credits

A language major requires 30 hours of credit in a single language above 2030.

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Electives - 21 credits

All electives must be above GERM 2030. At least three courses should be at the 4000-level.

- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 3990 - Independent Study Credits: 1-4
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4100 - A Survey of German Literature I Credits: 3
- GERM 4110 - A Survey of German Literature II Credits: 3
- GERM 4145 - Weimar Classicism Credits: 3
- GERM 4180 - German Poetry Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- GERM 4240 - German Literature of the Romantic Period Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- GERM 4275 - Contemporary Migration Literature Credits: 3

- GERM 4285 - 20th/21st Century German Film Credits: 3
- GERM 4990 - Advanced Independent Study Credits: 1-3

Spanish B.A.: Language-Linguistics Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3
  OR
- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
  OR
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- additional 12 hours of electives above SPAN 2030.

Highly Recommended Electives

- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

It is Possible to Take

It is possible to take one class from the following:

- SPPA 3160 - Speech and Language Development Credits: 4
- ANTH 4775 - Language and Gender

Credits / Units: 3

- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3

Total: 31 Hours

Spanish, B.A.

As a Spanish Major, you will develop your speaking, listening, and communication skills as a Spanish speaker. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Tracks

The undergraduate degree in Spanish has two tracks for students to select: Culture, Literature, and Cinema Track or Language-Linguistics Track.

There are multiple entry points into the major depending on previous Spanish language experience. Students should consult a Modern and Classical Languages advisor about the appropriate placement and credit-by-exam options.

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Spanish offers two major tracks:

Spanish B.A. : Culture, Literature, and Cinema Track

Spanish B.A. : Language-Linguistics Track

Prerequisites for both Spanish Tracks

- SPAN 1010 - First Year Spanish I Credits: 4
- SPAN 1020 - First Year Spanish II Credits: 4
- SPAN 2030 - Second Year Spanish I Credits: 4

Language and Linguistics Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3
  OR
- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
  OR
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- **PLUS** 12 hours of electives from the following:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3
  It is possible to take one class from the following:
- SPPA 3160 - Speech and Language Development Credits: 4
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3

Culture, Literature, and Cinema Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 2140 - Introduction to Reading Credits: 3
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3
  OR
- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3100 - Survey of Spanish Literature Credits: 3
  OR
- SPAN 3110 - Survey of Contemporary Spanish Literature Credits: 3
  OR
- SPAN 3120 - Survey of Spanish American Literature Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- **PLUS** 12 hours of electives from the following:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Minor

Chinese Minor

A Minor in Chinese consists of a minimum of 18 credit hours, including successful completion of 10 credit hours of Chinese language and culture courses at and above CHIN2040 on campus and 9 credit hours of an intensive summer study in China.

Prerequisites

Completion of:

- CHIN 1010 - First Year Chinese I Credits: 4
- CHIN 1020 - First Year Chinese II Credits: 4
- CHIN 2030 - Second Year Chinese I Credits: 4

Requirements

- CHIN 2040 - Second Year Chinese II Credits: 4
- CHIN 3055 - Business Chinese Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
  Or
- CHIN 4070 - Business Chinese II Credits: 3

Study Abroad

Summer Study in China is required for completion of 9 credit hours of coursework:

- CHIN 2041 - Contemporary and Traditional Chinese Culture Credits: 3
- CHIN 3050 - Intermediate Composition and Conversation Credits: 3
- CHIN 3065 - Intermediate Composition and Conversation II Credits: 3

Total: 19 Hours

Note: Study abroad is required for completion of 12 credit hours of coursework for this minor.

Classical Civilizations Minor

As a Classical Civilizations Minor, you will develop an interdisciplinary understanding of Classical Greek and Roman material, intellectual, and cultural traditions that have helped shape western systems and values.

Requirements

- CLAS 2020 - Classical Greek Civilization Credits: 3
  OR
- CLAS 2040 - Classical Roman Civilization Credits: 3
  OR
- HIST 2130 - Ancient Rome Credits: 3

Electives

12 hours chosen from Classics 3000-level or above; PHIL 3120, PHIL 4020, or PHIL 4030:

- CLAS 3050 - Athenian Democracy Credits: 3
- CLAS 3160 - "What Killed Socrates?" Credits: 3
- CLAS 4230 - Greek Tragedy Credits: 3
- CLAS 4270 - Classical Epic Poetry Credits: 3
- CLAS 4975 - Independent Study Credits: 1-4
- CLAS 4990 - Topics in Classical Civilization Credits: 1-4
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3

Other courses about ancient Mediterranean cultures that are not taught under Classics may be submitted for approval to the Classics section head.

Up to 6 hours of Latin at the 3000-level or above may be counted as electives:

- LATN 3110 - Vergil, The Aeneid I Credits: 3
- LATN 3120 - Vergil, The Aeneid II Credits: 3
- LATN 3140 - Caesar Credits: 2
- LATN 3150 - Livy Credits: 3
- LATN 3160 - Ovid Credits: 2
- LATN 3990 - Independent Study Credits: 1-4
- LATN 4110 - Horace Credits: 3
- LATN 4115 - Latin Philosophers Credits: 3

Total: 18 Hours

French Minor

As a French Minor, you will develop your speaking, listening, and communication skills as a French speaker. You will gain a better understanding of perspectives and experiences of French speaking cultures.

Requirements

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3050 - Third Year French I Credits: 3

Electives

- 9 hours chosen from French at the 3000 or 4000 level.
- Minors are encouraged to take one to two 4000 level courses with a traditional course load consisting of one 3000 level course and two 4000 level courses
- Elective courses include:
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3

- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 3990 - Independent Study Credits: 1-4
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- FREN 4120 - Medieval French Literature Credits: 3
- FREN 4140 - 17th Century French Literature Credits: 3
- FREN 4200 - Introduction to Research Credits: 3
- FREN 4250 - 19th Century French Literature Credits: 3
- FREN 4260 - 20th Century French Literature Credits: 3
- FREN 4350 - Studies in French and Francophone Literatures Credits: 3
- FREN 4990 - Advanced Independent Study Credits: 1-3

Total: 18 Hours

German Minor

As a German Minor, you will develop your speaking, listening, and communication skills as a German speaker. You will gain a better understanding of perspectives and experiences of German speaking cultures.

Requirements

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Electives

- 9 hours chosen from German at the 3000 or 4000 level.
- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 3990 - Independent Study Credits: 1-4
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4100 - A Survey of German Literature I Credits: 3
- GERM 4145 - Weimar Classicism Credits: 3
- GERM 4180 - German Poetry Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- GERM 4240 - German Literature of the Romantic Period Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- GERM 4275 - Contemporary Migration Literature Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3

- GERM 4990 - Advanced Independent Study Credits: 1-3

Total: 18 Hours

Japanese Minor

As a Japanese Minor, you will develop your speaking, listening, and communication skills as a Japanese speaker. You will gain a better understanding of perspectives and experiences of Japanese speaking cultures.

Prerequisites

- JAPN 1010 - First Year Japanese I Credits: 4
- JAPN 1020 - First Year Japanese II Credits: 4
- JAPN 2030 - Second Year Japanese I Credits: 4

Minor Program Requirements

A Japanese minor requires 18 credit hours of coursework which include JPN 2040 and above, and all courses required for a minor in Japanese are offered as online courses. These courses include:

- JAPN 3050 - Third Year Japanese I Credits: 3
- JAPN 3060 - Third Year Japanese II Credits: 3
- JAPN 2070 - Conversational Japanese Abroad Credits: 4
- LANG 2150 - Manga: History and Culture Credits: 3
- LANG 3140 - Anime: History and Culture Credits: 3
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- LANG 3105 - Major Themes in Chinese and Japanese Literature Credits: 3
- HP 3151 - Topics: Global Perspectives Credits: 3
  History and Culture classes (LANG 2150, 3140, 3105, and 4800) rotate every two years, as one History and Culture class is offered a semester. Modern Japanese Society (HP/LANG 3151) is offered twice a year, with one of these classes being a study abroad opportunity.

Latin Minor

As a Latin Minor, you will develop the communication skills necessary to read an original text of Classical Latin in prose or verse as well as the cultural knowledge essential to understand and analyze it.

Requirements

- LATN 3110 - Vergil, The Aeneid I Credits: 3
- LATN 3140 - Caesar Credits: 2
- LATN 4120 - Catullus and the Elegiac Poets Credits: 3
- LATN 4130 - Cicero Credits: 3

Electives

7 hours chosen from Latin at the 3000-level or above.

- LATN 3120 - Vergil, The Aeneid II Credits: 3
- LATN 3150 - Livy Credits: 3
- LATN 3160 - Ovid Credits: 2
- LATN 3990 - Independent Study Credits: 1-4
- LATN 4110 - Horace Credits: 3
- LATN 4115 - Latin Philosophers Credits: 3

Total: 18 Hours

Spanish Minor

As a Spanish Minor, you will develop your speaking, listening, reading, writing, and presentational skills in Spanish. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

Electives

- 18 hours of electives in Spanish at the 2000-level or above (excluding SPAN 2030).
- Elective courses include:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Total: 18 Hours

Graduate

Spanish, M.A.

As a Spanish Masters Student, you will develop your speaking, listening, reading, writing, and presentational skills in Spanish. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

Program Specific Admission Requirements

Those interested in graduate study in this program, are encouraged to contact the Department of Modern & Classical Languages (307-766-4176, languages@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required.
- A minimum of three letters of recommendation from:
    - current or former college/university instructor(s) of the applicant; and/or
    - current or previous professional supervisor(s) of the applicant.
- A statement of purpose that contains the applicant's:
    - Professional/career goals.
    - Educational goals.
    - Statement of how the graduate program will help the applicant attain their educational and professional goals.
    - Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
    - Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.
    - Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).
    - Any special skills or competencies (including any certifications or licenses).
    - List of publications, prizes, awards, or other recognitions.
    - List of service/volunteer activities.

The preferred application deadline is January 31 to be considered for fall admission, but applications will remain open until all available positions are filled.

GRE scores are not required. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. Applicants must present evidence of a satisfactory background in Spanish coursework or near-native fluency in the Spanish language.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. International students with Teaching Assistantships require proof of English speaking proficiency: Advanced-Mid on OPIc or TOEFL speaking score of 23, or IELTS speaking score of 6.5, or DuoLingo average score of 105. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements. Please see more information in the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog.

Required Courses

Program Specific Degree Requirements

A total of 27 graduate-level course hours are required.

Plus 4 thesis hours.

- SPAN 4200 - Introduction to Research Credits: 3
- SPAN 5900 - Practicum in College Teaching Credits: 3
- One 5000 level course in SPAN Linguistics Credits: 3
- One 5000 level course in SPAN Literature Credits: 3

- Spanish elective credits at the graduate level Credits: 15
  One 5000 level course (3 credits) can be taken outside the department with the approval of the thesis advisor or the graduate advisor
  Graduate-level courses include:

- SPAN 5070 - Spanish Variation and Change Credits: 3
- SPAN 5080 - Spanish Advanced Grammar Credits: 3
- SPAN 5090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 5100 - Hispanic Thought Credits: 3
- SPAN 5110 - Peninsular Spanish Literature Credits: 1-3
- SPAN 5120 - Spanish American Literature Credits: 1-3
- SPAN 5130 - Masterpieces of Spanish Renaissance Literature Credits: 3
- SPAN 5140 - Masterpieces of Spanish Baroque Literature Credits: 3
- SPAN 5150 - Spanish Romanticism Credits: 3
- SPAN 5160 - Graduate Readings Credits: 1-5
- SPAN 5170 - Special Problems Credits: 1-2
- SPAN 5180 - Advanced Cultural Studies in Hispanic Lit/Media Credits: 3
- SPAN 5190 - 20th and 21st Century Spanish- American Texts Credits: 3
- SPAN 5260 - The Realist Novel in Spain Credits: 3
- SPAN 5990 - Internship Credits: 1-12

Total: 31 Hours

Department of Music

Music 2049 Buchanan Center for the Performing Arts, (307) 766-5242
FAX: (307) 766-5326
Web site: www.uwyo.edu/music
Department Head: Ben Markley

Professors:

THERESA L. BOGARD, B.M. University of Colorado 1983; M.M. Eastman School of Music 1985; D.M.A. University of Colorado 1990; Professor of Music 2004, 1992. Keyboard, Keyboard Area Coordinator, Piano.

JOHN FADIAL, B.M. North Carolina School of the Arts 1987; M.M. Eastman School of Music 1989; D.M.A. University of Maryland 1995; Professor of Music 2015, 2008. Violin.

MICHAEL GRIFFITH, B.M.E. Michigan State University 1973; M.M. 1975; D.M.A. University of Colorado 1994; Professor of Music 2001, 1989. Conducting, Woodwinds.

J. SCOTT TURPEN, B.M.E. Boise State University 1994; M.M. University of Georgia 1996; D.M.A. 1999; Professor of Music 2012, 2001. Saxophone.

BLAKE MCGEE, B.M. University of Minnesota 2001; M.M. 2004; D.M.A. University of Oregon 2008; Associate Professor of Music 2016, 2010. Clarinet, Musicology.

BETH VANDERBORGH, B.M. Manhattan School of Music 1988; M.M. Eastman School of Music 1990; D.M.A. University of Maryland 1995; Associate Professor of Music 2014, 2008. Cello, Graduate Coordinator.

Associate Professors:

CRYSTAL SIEGER, B.M. Ohio State University 1992; M.M. University of Arizona 1994; Ph.D. 2012; Assistant Professor of Music 2014. Music Education.

BEN MARKLEY, B.M. Fort Hays State University 2005; M.A. New York University 2007; D.M.A. University of Colorado Boulder 2010; Assistant Professor of Music 2016. Jazz Studies.

TIGER ROBISON, B.M.E. University of Hartford 2005; M.S. Central Connecticut State University 2012; Ph.D. University of Hartford 2016; Assistant Professor of Music 2017. Music Education.

Assistant Professors:

JOSEPH CARVER, B.M.E. 2007 Ohio University; M.M. 2014 Ohio University; Ph.D. 2019 The Ohio State University. Associate Director of Bands.

BRIAN MURRAY, B.M. University of North Texas 2010; MME, Florida State University 2015; DMA, University of North Texas 2020. Assistant Professor of Music 2020. Choral Music Education.

DAVID WHARTON, B.M. Oberlin Conservatory 2009, M.M. Yale School of Music 2011, D.M.A. University of Connecticut 2019. Assistant Professor of Music 2020. Trumpet.

ANDREW WHEELOCK, B.M.E. Central Michigan University 2013; M.M. University of Illinois 2015; D.M.A. 2018. Assistant Professor of Music 2018. Percussion.

Academic Professional Lecturers:

JENNIFER TURPEN, B.M.E. SUNY-Potsdam 1996; M.M. University of Georgia 2000; D.M.A. 2000; Academic Professional Lecturer, Senior 2017, 2003. Theory, Saxophone.

ERIK ERLANDSON, B.M. DePauw University 2013; M.M. Louisiana State University 2015; D.M.A. University of Colorado Boulder 2020. Academic Professional Lecturer 2019. Choral.

Lecturers:

Will Flagg, O'Neil Jones, Nicole Riner, Magdalena Wór.

Part-time Lecturers:

Courtney Bress, Ryan Fourt, Alan Harvey, Alla Latchininsky, Kaori Uno-Jack, Seth Lewis, David Mesquitic, Susan Fritts, Greg Strampe, Heath Walton, Dan Watt, Brittany Bonner

Professors Emeriti:

Katrina Zook, Robert Belser, Steve Barnhart, David Brinkman, Gordon Childs, Julia Combs, Rodney Garnett, Frederick Gersten, Brian Hanly, Larry Hensel, Edgar Lewis, Kathleen McKeage, William Stacy, Carlyle Weiss

The Department of Music offers undergraduate and graduate degree programs which combine scholarship with performance, theory with practice and the academic with the creative. It also provides an opportunity for the study and performance of music by university students who are not majors in music. By giving concerts, workshops and lectures throughout the state of Wyoming through the Fine Arts Outreach Program, the music department serves as a musical resource for the entire state. The music department is fully accredited by the National Association of Schools of Music.

Procedures and requirements are listed in the music department *Student Handbook* which is available online at www.uwyo.edu/music/forms/index.html. The music department *Student Handbook* and the *University Catalog* are binding documents for the degree programs listed below. Students must receive a "C" or better in all courses designated MUSC to satisfy department requirements. The foreign language requirement for the Bachelor of Music in Performance Vocal Emphasis degree may be satisfied with a "C" or better in all courses. A student's transfer courses must meet all of these requirements to be accepted for credit.

An audition is required to become a Music major or minor. The 3 Steps to Becoming a Music Major are:

1. Apply for admission to the University of Wyoming (www.uwyo.edu/admissions/).
2. Audition for admittance as a Music major and for Music scholarships. Audition and scholarship information may be found at www.uwyo.edu/music. All Music majors and minors MUST audition to be admitted to the Music program.
3. Perform at an acceptable level, and you are in!

Degrees

Bachelor of Arts (with major in music): A program designed for the student who desires a broadly-based liberal arts program.

Bachelor of Music Performance: A fouryear course of study designed for students who wish to prepare for a professional career as performer and applied teacher.

Bachelor of Music Education: A fouryear course of study for the student who wishes to prepare for a career as a teacher of music in elementary or secondary schools in the instrumental, vocal, and general music fields.

Certificates

Music Entrepreneurship Certificate: The certificate provides a basic understanding of music marketing principles and practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management. A certificate may be pursued on its own or in conjunction with any university degree program. https://www.uwyo.edu/music/certificates/music_entrep_index.html

Audio Technology Certificate: The certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music workforce with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. Certificate may be pursued on its own or in conjunction with any university degree program.

Performer's (post-baccalaureate) Certificate

A non-degree course of study for the student seeking to improve professional performance skills. The program consists of a total of 30 credit hours from applied lessons, ensembles and electives to be selected in consultation with the major

adviser. Prerequisites are demonstrated evidence of advanced performance proficiency through a live or recorded audition, undergraduate degree in music, and admission to the university.

Music for Other Students

Music as an elective subject. Students from other departments of the university may, with consent of their adviser and applied instructor, elect private or class lessons in applied music (with or without previous training) and may enroll in any theory, music literature or activity course for which they are qualified. See the music department Student Handbook for requirements for a minor in music.

Organizations. Performance organizations include the Happy Jacks, Marching Band, Symphonic Band, Wind Ensemble, Collegiate Chorale, Symphony Orchestra, Chamber Orchestra, Singing Statesmen, Bel Canto, Women's Choir, and Opera Theatre. Other groups are brass, woodwind, string, percussion and piano ensembles, Vocal Jazz, Civic Chorus and Jazz Ensemble. Membership is open to qualified students in all colleges and departments of the university. Each year, in addition to frequent appearances on the campus, several of these organizations and groups tour the region.

Music Fees

For Individual Instruction:

One 1/2-hour lesson weekly, per semester	$150.00
One 1-hour lesson weekly, per semester	$300.00

For Music 4510, 4520, 4530, 4540, 4550 and 4560 (courses taken in the form of private lessons) a fee of $85.00 is assessed each semester.

Practice Rooms:

per semester	$35.00
Music instrumental fee, per semester	$25.00
Music locker fee, per student per semester	$15.00
Public School Methods fee, per class	$5.00

Undergraduate Study

Learning Outcomes

Bachelor of Arts in Music

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in

ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Arts degree in Music, students will be able to: (1) demonstrate a level of competence as solo and ensemble performers appropriate for a musician educated in the liberal arts, (2) demonstrate specific knowledge in music theory, music history, and general studies appropriate for their professional goals, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

USP PN Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

Elective 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

Upper division MUSC electives.....6

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Diversity in the U.S. Course 3

Elective 3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Global Awareness Course 3

Upper division MUSC elective*.....3

Electives 6

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

USP COM3 Course.....3

Upper division MUSC elective.....3

Electives 6

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

Upper division MUSC electives*.....6

Electives 6

Degree Total 120

*Upper Division MUSC Electives: See complete list in Undergraduate Music Handbook.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this *Catalog*. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music in Performance

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirements students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All string and vocal emphases must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for those with little piano background. All wind and percussion emphases must pass Class Piano 1-2 with a B or better or may substitute the Piano Literacy exam in their place. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music degree in Performance, students will be able to: (1) demonstrate excellence as solo and ensemble performers to provide a basis for a professional career as a musician, (2) demonstrate specific knowledge in music theory, music history, and instrumental pedagogy to provide a basis for a professional career as a performing musician, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Upper Division Music Electives

Upper division music electives vary per emphasis. Please see the Undergraduate Music Handbook for a full listing.

Winds and Percussion Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Global Awareness Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP H Course 3

Elective 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP H Course 3

Elective 3

Degree Total 120

String Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2290.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2050.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4651.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....3

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Vocal Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2320.....2

MUSC 2270-06.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2325.....2

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....3

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4610 2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

UPS V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP PN Course 3

A&S Core Global Awareness Course 3

Degree Total 120

Keyboard Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4600.....2

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....5

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 4650.....3

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Bachelor of Music Education

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All music majors must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for majors with little piano background. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music Education degree, students will be able to: (1) demonstrate skill as solo and ensemble performers who can work as professional educators, (2) demonstrate specific knowledge in music theory, music history, and instrumental and vocal pedagogy to provide a basis for a professional career as a music educator, (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music, and (4) demonstrate the pedagogical background and teaching experience to function as effective K-12 music educators.

University and College Requirements

In addition to the major requirements listed below, students must complete all university requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music Education - Brass, Woodwind, & Percussion Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 1370.....1

MUSC 2000-level Applied Lessons II.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4070.....3

MUSC 4455.....3

MUSC 4705.....1

MUSC 4750.....1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4380.....2

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 121

Bachelor of Music Education - String Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1352 2

MUSC 1340.....1

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4715 1

MUSC 4465.....3

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 126

Bachelor of Music Education - Vocal Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

MUSC 2320.....2

MUSC 2270-06.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4790.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 124

Graduate Study

The Department of Music offers programs leading to the Master of Music in Performance and to the Master of Music Education.

The following prerequisites and credit hours will pertain to individual lessons for all the instruments and voice listed below. All students enrolled in MUSC 5080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in Individual Lessons.)

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Music requires that applicants for graduate programs submit supplementary documentation of their preparation for advanced study in music.

Those interested in graduate study in music are encouraged to contact the Graduate Studies Coordinator for the Department of Music, Dr. Beth Vanderborgh (bvander@uwyo.edu), or the Area Coordinator for each instrument or voice cited on the Department of Music website (www.uwyo.edu/music/).

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html):

- three letters of recommendation
- the Graduate Teaching Assistantship application
- academic transcripts

A minimum undergraduate cumulative GPA of 3.000 is required. The GRE is not required for admission consideration.

All accepted graduate students in the Mast of Music (MM) or Master of Music Education (MME) programs will take the Graduate Entrance Examinations in music history and music theory prior to matriculation. If a student does not pass one or more sections, they must take an online refresher course prior to undertaking advanced coursework.

International applicants who are not native English speakers must submit TOEFL or IELTS scores (TOEFL minimum = 76, IELTS minimum = 6.5). If an international applicant wishes to be considered for a Graduate Teaching Assistantship, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center if you have questions regarding the OPI (www.uwyo.edu/elc/international-teaching-assistants/graduate_admissions/index.html).

Applicants for the MM program should also request an audition and apply for music scholarship consideration via the Audition and Scholarships link found on the Graduate page of the Department of Music website (www.uwyo.edu/music/graduate_students/index.html). Applicants for the MME program should send their supporting documents (video of teaching/rehearsing, statement of music education philosophy, writing sample) directly to Dr. Crystal Sieger, Music Education Coordinator (csieger@uwyo.edu).

Master of Music Education

An earned, documented Bachelor of Music Education degree from an accredited institution of higher learning.

One year of teaching experience plus: An active background in music education, A DVD of classroom teaching and/or rehearsing,

A one- to three-page statement of music education philosophy,

Three letters of recommendation, one from an immediate supervisor, of teaching effectiveness.

A writing sample from an extensive undergraduate research paper.

Learning Outcomes

1. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing skills necessary to enhance their teaching abilities in a P-16 vocal and/or instrumental teaching position.

2. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing/and communication skills necessary to solve contemporary music problems.

Master of Music in Performance

An earned, documented bachelor of music performance or bachelor of arts from an accredited institution of higher learning.

Live audition (preferred), live remote video audition, or lnks to an online video demonstrating:

A strong sense of musicality, Technical proficiency, Stylistically correct performance practices in at least three historical periods, where applicable,

A working knowledge of the standard repertoire,

Also, a portfolio of work showing concentrated activity on the major instrument or voice area.

Learning Outcomes

1. Graduate students will be excellent performers on voice or instrument.

2. Graduate students will demonstrate the advanced musical and pedagogical knowledge and research writing stills necessary to begin their professional performing career and/or demonstrate their readiness to teach at the college and/or university level and/or pursue

doctoral degrees.

Program Specific Graduate Assistantships

Graduate assistantships are awarded on a competitive basis to defray some of the costs of graduate study and to provide practical experience working under the guidance of faculty members.

Criteria that are taken into account in awarding assistantships include: academic preparation, performing ability, and special skills that would prove valuable in carrying out the duties of the assistantship, as well as, needs of the department.

To be considered for a graduate assistantship, the candidate must be fully admitted through the university. The application for an assistantship is accessed via the UW Graduate Admissions application. After considering the merits of the application, the department then nominates candidates to the university. Applications for assistantships are due by February 15.

Program Specific Degree Requirements

Master's Programs

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Basic music core (11 hours)

MUSC 5310. Bibliographical Research, 2 hours

Upper-division music history, 3 to 6 hours

Upper-division music theory, 3 to 6 hours

Major area courses (12-16 hours)

Thesis requirement (Plan A, four hours); (Plan B, zero hours)

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

Electives (0 to 7 hours)

Master of Music Education Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic music core, (11 hours)

Major area courses (12 - 15 hours)

EDRE 5530. Introduction to Research, 3 hours

MUSC 5760. Music Education Seminar, 2 hours

MUSC 5720. Music Supervision, 2 hours

Music education electives, 5-8 hours

Thesis requirement (0 to 4 hours) Plan A:

MUSC 5960. Thesis Research, four hours (the thesis must be on a music education topic), or

Plan B: Plan B paper, plus extra courses, 0 hours Electives (4 to 7 hours)

Master of Music in Performance Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic music core (11 hours minimum)

Major area courses (16 hours minimum)

MUSC 5480-5670. Private Lessons in major instrument or voice. A minimum of 8 hours.

MUSC 5770-5890. Ensembles, 2 hours

MUSC 5680. Graduate Recital, 2 hours.

A faculty jury must approve a recital given for credit one month prior to the performance.The faculty jury will determine the grade after the performance.

MUSC 5390. Performance Practice and Interpretation, 2 hours

MUSC 5320. Advanced Seminar, 3 hours MUSC 4***. Pedagogy (instrument specific), 2 hours

Requirement in lieu of thesis:

Plan B paper, or 1-hour lecture-recital

Foreign language requirement (voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Both degrees require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music (MUSC)

Individual Lessons: All students enrolled in MUSC 2080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in individual lessons.)

Students must receive a "C" or better in all courses designated MUSC to satisfy department degree requirements. A student's transfer courses in music must also reflect a "C" or better to be accepted for credit.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB♦Q]).

Major

Jazz Performance, B.M.

The BM in Jazz Performance is a jazz intense professional degree intended to prepare students for graduate school as well as a career in performing music. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Jazz Performance, B.M.: 120 Credits

Music Core: 56 Credits

- Students must complete at least one ensemble per semester enrolled, total 8.

- MUSC 0200 - Music Convocation Credits: 0
  Students must complete 8 semesters of Convocation, 1 each semester they are in residence.
- MUSC 1290 - Class Piano I Credits: 1
- MUSC 1295 - Class Piano II Credits: 1
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 4070 - Conducting Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- One hour of Applied Lessons on the students major instrument must be taken every semester starting at the 2000 level.
  MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
  MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
  MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
  MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16

Instrumental Emphasis: 2 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2

Jazz Core Requirements: 11 Credits

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2

Upper Division Music Electives: 9 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4990 - Topics in: Credits: 1-12

- MUSC 5035 - Advanced Theory Credits: 3

General Electives: 6 Credits

Music Education, B.M.

The **BM in Music Education** is a professional degree intended to prepare students for careers as K-12 music educators. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Music Education: B.M.

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Music Core: 43 Credits

- Students must complete at least one ensemble per semester enrolled, total 7.
- MUSC 0200 - Music Convocation Credits: 0
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1

- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2390 - Piano Literacy Exam Credits: 0
- Students who are Brass, Woodwind, and Percussion Emphasis may fulfill this requierment by passing Class Piano 1 and 2 with a B or higher.
  OR
- MUSC 2395 - Piano Proficiency Credits: 0
- Required for all Vocal and String emphasis students. Class Piano 1-4 is recommended to prepare for this exam.
- MUSC 4070 - Conducting Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- MUSC 4155 - Senior Music Education Recital Credits: 0
- Applied lessons are required each semester of residency:
  MUSC 2*** Applied Lessons II: 2 Credits **Credits / Units:** 8
  MUSC 3*** Applied Lessons III: 2 Credits **Credits / Units:** 8
  MUSC 4*** Applied Lessons IV: 2 Credits **Credits / Units:** 8
  MUSC 5*** Applied Lessons V: 2Credits **Credits / Units:** 8

Music Education Core: 13 Credits

Prerequisite: MUSC 1040 & 1045

- MUSC 1025 - Introduction to Music Education Credits: 2
- MUSC 1312 - Public School Tech: Brass Credits: 2
- MUSC 1322 - Public School Tech: Percussion Credits: 2
- MUSC 1332 - Public School Tech: Strings Credits: 2
- MUSC 1340 - Public School Methods: Voice I Credits: 1
- MUSC 1352 - Public School Tech: Woodwinds Credits: 2
- MUSC 1360 - Public School Methods: Guitar Credits: 1
- MUSC 3265 - Music Education Proficiency Review Credits: 0
- MUSC 4620 - Practicum in Music Education Credits: 1

Emphasis: Choose One, 4-5 credits

String Emphasis: 4 credits

- String majors must take lessons on a secondary string instrument. 2 credits

Credits / Units: 2

- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

Vocal Emphasis: 4 credits

- MUSC 2320 - Diction for Singers I Credits: 2
- MUSC 4620 - Practicum in Music Education Credits: 1

Brass, Woodwind, and Percussion Emphasis: 5 credits

- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

Professional Education Requirements: 33 Credits

- EDST 2450 - Foundations of Development and Learning Credits: 3
- EDEX 2484 - Introduction to Special Education Credits: 3
- MUSC 4460 - Choral Music Methods Credits: 3
- MUSC 4465 - Instrumental Music Methods Credits: 3
- MUSC 4705 - Elementary Music Ed Practicum Credits: 1
- MUSC 4715 - Secondary Music Ed Practicum Credits: 1
- MUSC 4700 - Elementary Student Teaching in Music Credits: 8
- MUSC 4710 - Secondary Student Teaching in Music Credits: 8

Music Performance, B.M.

The **BM in Performance** is a professional degree intended to prepare students for graduate school as well as a career in performing music. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

B.M. Performance, Vocal Emphasis: 120 Total Hours

Music Core: 54 Credits

- Ensembles: 1 per semester, minimum 8

Credits / Units: 8

- MUSC 0200 - Music Convocation Credits: 0

- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- Applied lessons are required each semester of residency:
  MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
  MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
  MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
  MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Vocal Emphasis: 6 Credits

- MUSC 2320 - Diction for Singers I Credits: 2
- MUSC 2325 - Diction for Singers II Credits: 2
- MUSC 4635 - Vocal Pedagogy Credits: 2

Upper Division Music Electives: 16 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4040 - Composition Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3

- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, Keyboard Emphasis: 120 Hours Total

Music Core: 56 Hours

- MUSC 0200 - Music Convocation Credits: 0
- Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
    - Applied lessons are required each semester of residency: **Credits / Units:** 16
      MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
      MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
      MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
      MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 4070 - Conducting Credits: 3
- MUSC 4040 - Composition Credits: 2
- MUSC 1280 - Collaborative Piano I Credits: 1-2
- Ensembles: MUSC 1280 is intended for freshman and sophomores; MUSC 3280 is intended for juniors and seniors. You must be registered for a minimum of one ensemble per semester.

Credits / Units: 8

- MUSC 3280 - Collaborative Piano II Credits: 1-2
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Keyboard Emphasis: 5 Credits

- MUSC 4625 - Piano Pedagogy Credits: 2
- MUSC 4650 - Keyboard Literature Credits: 3

Upper Division Music Electives: 17 Hours

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, String Emphasis: 120 Total Hours

Music Core: 56 Credits

- Ensembles: 1 per semester, minimum 8

Credits / Units: 8

- MUSC 0200 - Music Convocation Credits: 0
- Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- Class Piano 1-4 is highly recommended for students with little or no piano experience. All music majors must pass a piano proficiency test during their sophomore year (MUSC 2395). If a student opts not to take Class Piano, then four (4) hours of elective credits must be taken to ensure 120 hours for graduation.
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
  Applied lessons are required each semester of residency: **Credits / Units:** 16
  MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
  MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
  MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
  MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 4040 - Composition Credits: 2
- MUSC 4070 - Conducting Credits: 3

- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

String Emphasis: 4 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2
- MUSC 4651 - String Solo Literature Credits: 3

Upper Division Music Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, Winds & Percussion Emphasis: 120 Total Hours

Music Core: 58 Credits

- Ensembles: 1 per semester, minimum 8

Credits / Units: 8

- MUSC 0200 - Music Convocation Credits: 0
  Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3

- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
    - Applied lessons are required each semester of residency: **Credits / Units:** 16
      MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
      MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
      MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
      MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 1290 - Class Piano I Credits: 1
  AND
- MUSC 1295 - Class Piano II Credits: 1
  OR
- MUSC 2390 - Piano Literacy Exam Credits: 0 All Performance majors with a Wind and Percussion Emphaisis must pass the Piano Literacy Exam (MUSC 2390) during their sophomore year OR pass Class Piano 1 & 2 with a B or better. If a student opts not to take Class Piano, then two (2) hours of elective credits must be taken to ensure 120 hours for graduation.
- MUSC 4040 - Composition Credits: 2
- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Instrumental Emphasis: 2 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2

Upper Division Music Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

Music, B.A.

The **BA in Music** is a broad liberal arts degree with a 58-credit core music curriculum. Majors have the freedom to explore the potential for future careers in the music and arts industry such as arts management, entrepreneurship, and audio technology.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Music Core: 40 Credits

- Students must complete at least one ensemble per semester enrolled, total 8.
- MUSC 0200 - Music Convocation Credits: 0
- All music majors must enroll in and successfully complete Convocation each semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2390 - Piano Literacy Exam Credits: 0
- The Piano Literacy Exam must be completed by the end of Sophomore year. It may be substituted by passing Class Piano 1 and 2 with a B or higher.
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- Students must be enrolled in instrument specific lessons every semester they are enrolled. They must complete the following:
  MUSC 2*** Applied Lessons II, 2 credits **Credits / Units:** 8
  MUSC 3*** Applied Lessoons III, 2 Credits **Credits / Units:** 8
  MUSC 4*** Applied Lessons IV, 2 Credits **Credits / Units:** 8
  MUSC 5*** Applied Lessons V, 2 Credits **Credits / Units:** 8

Upper Division Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2

- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4040 - Composition Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4590 - Senior Recital Credits: 2
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4990 - Topics in: Credits: 1-12

- MUSC 5035 - Advanced Theory Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Minor

Music Minor: 18 Credits

A **Minor in Music** consists of 18 credit hours intended to broaden a student's musical skills as well as foster musical talents while they are pursuing a separate major. Acceptance to the minor is by audition only.

Required Courses

- **Ensembles**: Minimum 2 semesters required

Credits / Units: 2

- **Applied Lessons**: Complete at least 2 hours of Applied Lessons (2 semesters, minimum 30 minutes each)

Credits / Units: 2

- MUSC 0200 - Music Convocation Credits: 0
  2 Semesters Required
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
  Choose one of the following: Credits / Units: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
  OR
- MUSC 2055 - Historical Perspectives III Credits: 3

Choose at least 3 credits from the following. Final credit hours for the minor must equal 18. Credits / Units: 3

- MUSC 3015 - Introduction to Global Music Credits: 3
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3

Graduate

Music Education, M.M.

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic Music Core (11 Hours)

No more than 12 credits can be counted from 4000-level courses toward any graduate program of study.

- MUSC 5310 - Music Research Methods Credits: 2

- Choose a total of at least THREE courses from the following (minimum 9 credits from the following two categories):
- **Upper-Division Music History** (3-6 Credits):
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 5320 - Advanced Seminar Credits: 2-6
- **Upper-Division Theory** (3-6 hours):
- MUSC 5035 - Advanced Theory Credits: 3
- MUSC 5340 - Advanced Composition Credits: 1-4
- MUSC 5350 - Advanced Analysis Credits: 3

Major Area Courses (12-15 Hours)

- EDRE 5530 - Introduction To Research Credits: 3
- MUSC 5760 - Music Education Seminar Credits: 2
- MUSC 5720 - Musical Supervision: Choral Credits: 2
- Music education electives Credits: 5-8

Thesis Requirement (0-4 Hours)

Plan A

Four hours (the thesis must be on a music education topic)

- MUSC 5960 - Thesis Research Credits: 1-12

Plan B

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

- Plan B paper, plus extra courses Credits: 0

Electives (4 to 7 Hours)

Require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music Performance, M.M.

Each of the degree programs consists of 30 semester hours of work composed of the following elements

Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic Music Core (11 Hours Minimum)

No more than 12 credits can be counted from 4000-level courses toward any graduate program of study.

- MUSC 5310 - Music Research Methods Credits: 2
- Choose a total of at least THREE courses from the following (minimum 9 credits from the following two categories):
- **Upper-Division Music History** *(3-6 Credits)*:
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 5320 - Advanced Seminar Credits: 2-6
- **Upper-Division Theory** (3-6 hours):
- MUSC 5035 - Advanced Theory Credits: 3
- MUSC 5340 - Advanced Composition Credits: 1-4
- MUSC 5350 - Advanced Analysis Credits: 3

Major Area Courses (16 Hours Minimum)

- MUSC 5480 - MUSC 5670 Private Lessons in major instrument or voice Credits: 8 minimum
- MUSC 5700 - MUSC 5890 Ensembles Credits: 2
- MUSC 5680 - Graduate Recital Credits: 2 A faculty jury must approve a recital given for credit one month prior to the performance. The faculty jury will determine the grade after the performance.
- MUSC 5390 - Performance Practice and Interpretation Credits: 2
- MUSC 5320 - Advanced Seminar Credits: 2-6
- MUSC 4*** - Pedagogy (instrument specific) Credits: 2

Requirement In Lieu of Thesis

Plan B paper, or 1-hour lecture-recital

Foreign Language Requirement

(voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Certificate

Audio Technology Certificate: 12 Credits

The Audio Technology Certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music work force with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. A certificate may be pursued on its own or in conjunction with any university degree program.

Required Courses

- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3
- MUSC 4365 - Recording Art and Technology Credits: 3
- MUSC 4370 - Live Sound Reinforcement Credits: 1
- MUSC 4990 - Topics in: Credits: 1-12
  Audio Technology Practicum/Internship **Credits / Units:** 3

Endorsement/Certificate

Art Entrepreneurship Certificate: 12 Credits

This certificate provides a basic understanding of marketing principles specific to the arts with practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management.

Required Core Courses (All Emphases)

- MUSC 4002 - Arts Entrepreneurship Seminar Credits: OR, TO
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- Choose one of the following:
- MGT 2100 - Management and Organizations Credits: 3
  OR
- MKT 2100 - Introduction to Marketing Credits: 3

- **The internships below are variable, 1-2 credits, depending on department. Please see individual advisors for exact hours.**

Music Emphasis

- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4005 - Internship in Music Business Credits: 1

Visual Arts Emphasis

- ART 4600 - Professional Practices and Strategies Credits: 3
- ART 4400 - Internship Credits: 1-3

Theater and Dance: Dance Emphasis

- THEA 4700 - Professional Seminar in Dance Credits: 1
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Theater and Dance: Design/Tech Management Emphasis

- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Theater and Dance: Performance Emphasis

- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Department of Philosophy and Religious Studies

Philosophy

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/philosophy/index.html
E-mail: philosophy@uwyo.edu
Department Head: Robert S. Colter

Professors:

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2013.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

SUSANNA L. GOODIN, B.A. Texas Technical University 1981; M.A. Rice University 1985; Ph.D. 1990; Associate Professor of Philosophy 1998, 1992.

EDWARD D. SHERLINE, B.A Princeton University 1982; M.A. University of Chicago 1983; Ph.D. University of Illinois-Chicago 1990; Associate Professor of Philosophy 1996, 1989.

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Associate Professor of Philosophy 2022, 2018.

Assistant Professor:

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Assistant Professor of Philosophy 2018.

Senior Lecturer:

ROBERT S. COLTER, B.A. The University of Puget Sound 1992; M.A. University of Colorado 1995; Ph.D. Northwestern University 2001; Senior Lecturer 2021, 2013, 2007.

Assistant Lecturer:

LINDSAY RETTLER, B.A. Biola University 2005; M.A. Western Michigan University 2010; Ph.D. The Ohio State University 2015; Assistant Lecturer 2022**.**

Professors Emeriti:

James Forrester, Richard L. Howey, James A. Martin

About the Program

Philosophy starts with those hard questions we all ask at some time or another. Some important questions of meaning and justification can't be answered by making observations or doing experiments. Philosophy is the effort to deal with

these problems through sustained, hard, and critical thinking. Philosophy is good preparation for careers that call for you to use your mind, without prejudice but with rigor.

The Philosophy Department offers an undergraduate major, and three undergraduate minors.

For details on each of these programs, see the department's web site.

Religious Studies

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/relstudy/
Email: relstudies@uwyo.edu
Department Head: Robert S. Colter
Program Director: Tyler Fall

Professor

PAUL V. M. FLESHER, B.A. University of Rochester 1979; M.Phil. Oxford University 1982; Ph.D. Brown University 1988; Professor of Religious Studies 2012, 1993.

Assistant Professors

CATHERINE HARTMANN, B.A. University of Virginia in 2011, M.A. University of Chicago 2013, Ph.D. Harvard University 2020; Assistant Professor of Religious Studies 2020

TAMMY HEISE, B.A. Hendrix College 1998; M.A. Vanderbilt University 2006; Ph.D. Florida State University 2016; Visiting Assis¬tant Professor of Religious Studies 2015, Assistant Professor of Religious Studies 2020.

Senior Academic Professional Lecturer

TYLER S. FALL, B.A. Mary Washington College 1999; M.A. University of Oregon 2004; M.F.A. University of Wyoming 2009; Associate Academic Professional Lecturer of Religious Studies 2017, 2012.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 1999; Associate Academic Professional of Religious Studies 2017, 2012.

About the Program

Throughout history, religion has played an important role in shaping cultures and societies. Religious beliefs have inspired armies in their wars and leaders in their decisions. Re¬ligions have provided the foundation for ethi¬cal behavior and in many societies have been the primary source of education. In today's world, religions remain important, influencing our responses to 9/11, the Arab Spring, the Philosophy and Religious Studies, Middle East crisis, and other events in regions around the world. Even in our own secular United States, religions and their beliefs play a major role in our debates over public policy.

The Religious Studies department offers a range of courses in the academic study of reli¬gions. These courses seek to acquaint students with religious beliefs and behavior, helping them to understand the ability of religions to define the world in which their adherents live and the power religions have to influence the behavior of their followers. Religious Studies courses cover a broad range of religions, both modern and historical. Some courses focus on understanding a

single religion in a limited time period, while others compare aspects of different religions. Yet further courses focus on religious expression, studying how religious beliefs are depicted in literature, film, art and music. Many of these courses are offered by the Religious Studies department, while others can be found in various departments, including anthropology, art, English, history and sociology.

Graduate Study

At present, no program for a graduate degree in religious studies is offered; however, some courses may be counted at the graduate level.

Major

Philosophy, B.A.

Philosophy provides the critical thinking, logical reasoning, and innovative problem-solving skills necessary to be competitive in law, business, academia, tech, arts, and government. It also explores what it is to live a meaningful life outside a career.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Requirements

- A major in Philosophy requires a minimum of 33 hours (11 courses) of philosophy.
- At least 6 hours (2 courses) must be at the 4000-level.
- At least an additional 18 hours (6 courses) must be at or above the 3000-level.
- The remaining 9 hours (3 courses) may be at any level.
- The department recommends that students begin with a 1000-level Intro course or a FYS followed by one or two other courses at the 1000 or 2000-level but it is not required that a student follow this recommendation.
- Only those courses in which a grade of C or better has been earned may count toward the 33-hour requirement.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

1000 -2000-level courses

Nine hours (3 courses) may be at any level.

- PHIL 1000 - Introduction to Philosophy Credits: 3
- PHIL 1101 - First-Year Seminar Credits: 3
- PHIL 2100 - The Greek Mind Credits: 3
- PHIL 2300 - Ethics in Practice Credits: 1-3
- PHIL 2310 - Philosophy of Religion Credits: 3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3

3000-level courses

At least 18 hours (6 courses) must be at or above the 3000-level.

- PHIL 3000 - Special Topics Credits: 3
- PHIL 3100 - History of Modern Philosophy: The Rationalists Credits: 3
- PHIL 3110 - History of Modern Philosophy: The Empiricists Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3160 - "What Killed Socrates?" Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 3340 - Philosophy in Literature Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- PHIL 3500 - History of Science Credits: 3
- PHIL 3933 - African Philosophy Credits: 3

4000-level-courses

At least 6 hours (2 courses) must be at the 4000-level.

- PHIL 4000 - Philosophical Issues Credits: 1-3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3
- PHIL 4040 - Kant Credits: 3
- PHIL 4110 - Figures in Contemporary Philosophy Credits: 3-6
- PHIL 4120 - Philosophy and the 20th Century Credits: 3

- PHIL 4130 - Figures in Modern and 19th Century Philosophy Credits: 3
- PHIL 4140 - Topics in Philosophy of Science Credits: 3
- PHIL 4190 - Philosophy of Language Credits: 3-6
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3
- PHIL 4420 - Advanced Logic Credits: 3
- PHIL 4440 - Topics in Philosophy of the Mind Credits: 3-6
- PHIL 4510 - Theory of Knowledge Credits: 3
- PHIL 4560 - Metaphysics Credits: 3
- PHIL 4975 - Independent Study Credits: 1

Religious Studies, B.A.

Religious Studies builds skills for your future in a globalized world. You will learn to ask life's big questions, analyze how communities across time and place have addressed these questions, and communicate persuasively in your own speech and writing.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

General Requirements

A major in Religious Studies requires 33 hours (11 courses).

For students completing their degree under the 2015 University Studies Program:

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Two Required Courses: 6 Hours

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 4000 - Theories of Religion Credits: 3

1000-2000 level Courses

Nine hours (3 courses) may be at any level.

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 1101 - First-Year Seminar Credits: 3
- RELI 2030 - Violence and Resistance Credits:
- RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam Credits: 3
- RELI 2050 - Religions of Asia Credits: 3
- RELI 2070 - Gender and Religion Credits: 3
- RELI 2080 - Holocaust Credits: 3
- RELI 2110 - Introduction to the Old Testament Credits: 3
- RELI 2150 - New Testament Survey Credits: 3
- RELI 2175 - The Life and Teaching of Jesus Credits: 3
- RELI 2200 - Contemporary American Religion Credits: 3
- RELI 2225 - History of Christianity Credits: 3
- RELI 2250 - American Religious History I (To 1865) Credits: 3
- RELI 2252 - American Religious History II (1865- 1945) Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- RELI 2320 - History of Islam Credits: 3
- RELI 2330 - Islam in the Modern World Credits: 3
- RELI 2410 - Varieties of Non-Belief in the Western World Credits: 3
- RELI 2450 - Traditional African Religion Credits: 3
- RELI 2490 - Special Topics in Religion Credits: 1-3
- RELI 2335 - Buddhism Credits:

3000-4000 Level Courses

At least 18 hours (6 courses) must be at or above the 3000-level.

- RELI 3090 - Middle East and Israel in Film Credits: 3
- RELI 3110 - Bible and Archaeology Credits: 3
- RELI 3200 - Religion and American Culture Credits: 3
- RELI 3220 - History of the Modern Middle East Credits: 3
- RELI 3225 - Apocalypse: The History of the End Credits: 3
- RELI 3230 - Early Christianity Credits: 3
- RELI 3235 - Medieval Christianity Credits: 3
- RELI 3240 - Reformation and Enlightenment Christianity Credits: 3
- RELI 3245 - Christianity Since Darwin Credits: 3
- RELI 3250 - Tibetan Buddhism Credits:
- RELI 3260 - African Spirits in the New World Credits: 3
- RELI 3320 - Eastern Thought Credits: 3
- RELI 3340 - Mysticism, Yoga, and Enlightenment in the East Credits: 3
- RELI 3350 - Religion and Globalization in India Credits: 3

- RELI 3400 - Religion in the American West Credits: 3
- RELI 4000 - Theories of Religion Credits: 3
- RELI 4090 - Film and Religion Credits: 3
- RELI 4100 - African American Religious Culture Credits: 3
- RELI 4113 - Medieval Religious Dissent Credits: 3
- RELI 4160 - Moses, Jesus, and Muhammad Credits: 3
- RELI 4174 - Judaism from Ezra to Jesus Credits: 3
- RELI 4175 - Judaism at the Dawn of Christianity Credits: 3
- RELI 4190 - Women and the Bible Credits: 3
- RELI 4260 - Judaism in the Modern World Credits: 3
- RELI 4270 - Buddhist Ethics Credits:
- RELI 4310 - Seminar in Asian Religions Credits: 3
- RELI 4335 - Women and Islam Credits: 3
- RELI 4500 - Special Topics in Religious Studies Credits: 1-3
- RELI 4635 - Religious Studies Departmental Honors Credits: 0
- RELI 4900 - Independent Study in Religion Credits: 1-3
- RELI 4930 - Thesis Credits: 0-6
- RELI 4960 - International Field Course Credits: 1-6
- RELI 4961 - Domestic Field Course Credits: 1-6

Language

Students should take three semesters of a single foreign language or demonstrate equivalent proficiency. See note 3 below.

Honors

If a student wishes to pursue an Honors designation in Religious Studies, two additional requirements must be fulfilled.

A. A three-hour Thesis Seminar or Internship, during which a research paper is written, or other suitable research project is carried out.
B. Demonstration of competency in a foreign language equivalent to a fourth-semester college-level course.

Notes:

1. If students majoring in Religious Studies can use its courses to satisfy requirements in a second major or minor, this is permitted.
2. Courses for the major should be drawn from those with a RELI prefix, or from a list of approved courses taught by other departments or programs. See the list of approved courses on the Religious Studies website. Occasionally, courses on religion are taught by outside departments as one-time opportunities. Students may propose these for inclusion in the major **t**o the Religious Studies Program Director.
3. The language requirement may be satisfied with American Sign Language (ASL) or, with the approval of the department, coursework in another form of non- English communication (e.g. computer science, statistics, music composition).
4. All courses must be passed with a grade of C or better.

Minor

Environmental Values Minor

The minor in Environmental Values explores the vital link among the natural sciences, humanities, and the social sciences in grappling with environmental challenges.

Course Requirements

The minor in Environmental Values may be added to any bachelor's program at UW.

The minor requires a total of 18 credit hours, including at least one course within each of four areas of concentration. At least 12 of these credits must be outside the primary major, and nine of these credits must be at or above the 3000-level. A three-hour, core course (either Phil 2330 Environmental Ethics or Phil 2345 Natural Resource Ethics) is required of all students.

Core Course

A three-hour, core course is required of all students.

- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3

Areas of Concentration:

(note: the courses listed below are provided as examples of the type of courses that meet the various areas of concentration. Other courses may be approved on a course by course basis in consultation with the Philosophy Department Undergraduate Advisor.)

Aesthetics

Expressing ourselves through the performing, visual and literary arts:

- GEOG 4500 - The American Landscape Credits: 3
- THEA 2400 - Vertical Dance I Credits: 1
- THEA 3400 - Vertical Dance II Credits: 1

Culture

Viewing human meaning and purpose in historical and contemporary terms:

- NAIS 3000 - Plains Culture and History Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 4480 - Regional Literature of the US: The West Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- HIST 4475 - American Environmental History Credits: 3

Ethics

Considering right and wrong via critical and systematic thinking and doing:

- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

Policy

Exploring laws, regulations, and public discourse in American society:

- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

Ethics Minor

A minor in Ethics enhances and compliments any major, such as education, health sciences, law, business, engineering, computer science, political science, or communication.

Course Requirements

A minor in Ethics requires a minimum of 18 hours. One course from each of the three areas plus a capstone course.

A Student Takes One Course in Each of These Areas:

1. Ethical Theory

- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3250 - Global Justice Credits: 3

2. Applications

(other courses determined on a case by case basis in consultation with the Philosophy Department)

- PHIL 2300 - Ethics in Practice Credits: 1-3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 3340 - Philosophy in Literature Credits: 3
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

3. Scientific, Historical and Social Analysis

(other courses determined on a case by case basis in consultation with the Philosophy department)

- PHIL 3100 - History of Modern Philosophy: The Rationalists Credits: 3
- PHIL 3110 - History of Modern Philosophy: The Empiricists Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3160 - "What Killed Socrates?" Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3
- PHIL 4040 - Kant Credits: 3
- PHIL 4120 - Philosophy and the 20th Century Credits: 3
- PHIL 4130 - Figures in Modern and 19th Century Philosophy Credits: 3
- PHIL 4140 - Topics in Philosophy of Science Credits: 3

Capstone Course

The capstone course is an independent study normally taken during a student's senior year. The course integrates the student's different areas of study in the ethics minor into a project or thesis. Any professor in any college can sponsor this independent study. Capstone topics must be approved by the ethics minor advisor. (determined in consultation with the Philosophy Department Undergraduate Advisor)

Electives

The other two courses are approved electives, (2 courses from Areas 1, 2 or 3 -- each from a different area).

Philosophy Minor

Philosophy provides the critical thinking, logical reasoning, and innovative problem-solving skills necessary to be competitive in law, business, academia, tech, arts, and government. It also explores what it is to live a meaningful life outside a career.

Course Requirements

A minor in Philosophy requires a minimum of 18 hours (6 courses) of philosophy.

- Of the 18 hours, 12 hours must be at 3000-level or above.
- Of the 18 hours, the remaining 6 hours (2 courses) may be at any level.

Only courses in which a grade of C or better has been earned count toward the 18-hour requirement.

Religious Studies Minor

The Minor in Religious Studies requires eighteen hours of relevant courses, all with a grade of "C" or higher. These should consist of courses as set out below:

Relevant Courses: 18 Hours

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 4000 - Theories of Religion Credits: 3 (a capstone course)
- Twelve hours of courses focusing on issues in the study of religions, six of which should be at the 3000 level or higher. Occasionally, courses on religion are taught by outside departments as one-time opportunities. Students may propose these for inclusion in the major to the Religious Studies Program Director

School of Politics, Public Affairs, and International Studies

Arts and Sciences Building, Room 208

(307) 766-6484

Web site: **www.uwyo.edu/sppais**

School Head: **Stephanie Anderson**

SPPAIS Faculty:

Professors:

STEPHANIE B. ANDERSON, B.S.F.S. Georgetown University 1989; M.Sc. The London School of Economics and Political Science 1990; Ph.D. University of Cambridge 1996; Professor of Political Science 2017, 2005.

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

ANDREW D. GARNER, B.S. Kennesaw State University 2002; Ph.D. University of Mississippi 2007; Professor of Political Science 2014, 2008.

JEAN A. GARRISON, B.A. University of Wyoming 1990; M.A. University of South Carolina 1992; Ph.D. 1996; Professor of Political Science, International Studies 2010, 2001.

BRENT L. PICKETT, B.A. Wichita State University 1989; M.A. University of Colorado at Boulder 1991; Ph.D. 1995; Professor of Political Science - Casper 2010, 2005.

ROBERT A. SCHUHMANN, B.S. Appalachian State University 1987; M.P.A. 1989; Ph.D. Virginia Polytechnic Institute and State University 1995; Professor of Political Science 2013, 1995.

Associate Professors:

NEVIN AIKEN, B.A. University of Western Ontario 2003; M.A. 2004; Ph.D. University of British Columbia 2010; Associate Professor of Political Science and International Studies 2016, 2010.

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.

NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Assistant Professor of Geography and International Studies 2016.

ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Assistant Professor of Geography and International Studies 2016.

JUSTIN T. PICCORELLI, B.A. Loyola Marymount University 2004; M.P.A. Cleveland State University 2009; Ph.D. 2014; Assistant Professor of Public Administration 2015.

THOMAS R. SEITZ, B.S. University of the State of New York 1988; M.A. University of Kent at Canterbury 1989; Ph.D. University of Cambridge 1997; Associate Professor of International Studies 2015, 2009.

Assistant Professors:

JASON B. MCCONNELL, B.S. University of Wyoming 1998, MA 2003, J.D. 2005; Ph.D. Washington State University 2017; Assistant Professor of Political Science 2018.

GABEL C. TAGGART, B.S. Brigham Young University 2010; M.P.P. 2013; Ph.D. Arizona State University 2017; Assistant Professor of Public Administration 2018.

RYAN D. WILLIAMSON, B.A. University of Alabama at Birmingham 2011; Ph.D. University of Georgia 2017; Assistant Professor of Political Science 2023.

Senior Academic Lecturer:

ANNE ALEXANDER, B.B.A. New Mexico State University, 1991; M.S. 1993; Ph.D. University of Wyoming, 2001; Senior Academic Lecturer, 2019, 2013; Interim Provost and Vice President for Academic Affairs 2020.

Associate Lecturer:

RUTH BJÖRKENWALL, B.A. University of California at Berkeley, 1989; M.A. 2004; Associate Lecturer 2018, 2013.

Professors Emeriti:

Winberg Chai, Larry Hubbell, James King, Garth Massey, Margaret M. Murdock, Stephen C. Ropp, Oliver Walter

Associate Professor Emeritus:

Alan E. Schenker

Adjunct Faculty:

(see department section following name for academic credentials)

Tanja Börzel, political science, Freie Universitaet Berlin

Roger Coupal, agriculture and applied economics

Michael Harkin, anthropology

Mark Peterson, management and marketing

Thomas Risse, political science, Freie Universitaet Berlin

Amy Roberts, elementary and early childhood education

Chris Rothfuss, international studies

Mona Schatz, social work

Ed Sherline, philosophy

J.J. Shinker, geography

Jim Thurman, international studies, political science - Central Wyoming College

International Studies

Undergraduate Learning Outcomes

- Goal 1: International Studies majors learn to recognize and rigorously examine economic, political, and social-cultural dimensions of international processes and issues.
- Goal 2: Majors develop expertise in an interdisciplinary concentration of their choice, either "Development Studies" or "Security Studies," both of which are in high demand in public, private, and nonprofit sectors.
- Goal 3: Majors learn the importance of distinctions between world regions, as well as to explain the global economic, political, and social-cultural processes by which they are interrelated.
- Goal 4: Majors achieve basic proficiency in a second language and appreciate the benefits of that language for engaging with international processes and issues, including through experiential learning in a foreign locale.
- Goal 5: Majors develop critical reading, writing, analysis, and engagement skills that prepare them for work in internationally oriented government agencies, private enterprises, nonprofits, and nongovernmental organizations

Graduate Learning Outcomes

All students who graduate with a Master's degree in international studies will be able to:

Engage in independent empirical inquiry that makes an original contribution to the field of study;

Think critically and reason logically about a problem and the ways it can be answered;

Employ the best recognized methods appropriate to their research;

Effectively develop alternative explanations, use theories and concepts to guide the research project, and conduct the work in such a way that disproof is possible; and

Present their work intelligently, with both written and oral capability at a level of professional expectations.

They will have a broad understanding of:

International affairs;

The diversity of national cultures and social structures;

Political and economic systems;

Major global trends and problems

Political Science

Political Science is the study of how societies govern themselves and interact with one another. Courses of instruction in the Political Science major are offered in the following subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration. Areas of focus include analysis of government structures and processes, citizens' influence on government, policy content, philosophical concepts and traditions, political systems of other states, and resolution of conflicts between nations. By developing critical thinking and analytical skills, the major prepares students for effective participation in the political process, successful careers in the public and private sectors, and further study in law, political science, and public administration.

In 1925, the state legislature passed a law requiring the study of the U.S. and Wyoming constitutions by all University of Wyoming students. Political Science 1000 satisfies this requirement, but the requirement can also be satisfied by special examination given periodically by the School of Politics, Public Affairs, and International Studies.

Learning Outcomes

We continuously and actively assess the Political Science undergraduate curriculum to ensure that the following learning outcomes are being met for each of our graduates:

1. Acquisition of a knowledge and understanding of the values, beliefs, and institutions that constitute governing processes;
2. Acquisition of an understanding of the distinctions among the major subfields of the discipline including: American politics and law; international relations; comparative politics; and political theory;
3. Development of a knowledge and understanding of citizens' roles within governing processes;
4. Acquisition of a knowledge of the theories and analytic skills necessary to evaluate conflicting arguments, assemble and present appropriate evidence, and make reasoned conclusions from the evidence available;
5. The ability to communicate effectively, both orally and in written form.

Undergraduate Major

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours. Students are required to complete the following four introductory courses: POLS 1000; POLS 1200 or POLS

1250; POLS 2310; and POLS 2460 or POLS 3600. Students are also required to take at least one seminar in political science

(and its prerequisites); 8 hours of a single foreign language or equivalent credit by examination as determined by the

Department of Modern and Classical Languages; STAT 2050 or STAT 2070; and a minimum of 9 hours of upper division credit in political science. A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Undergraduate Minors

The school offers optional undergraduate minors in American politics, international relations and comparative government, public law, and political theory. Eighteen hours are required in each minor, including 9 hours of upper-division courses and one seminar. A maximum of 3 hours of internship credit may be applied towards the 18 hours required for the political science minor. At least 12 credit hours in a minor must be from courses not counted toward the student's major. Information relating to specific courses fulfilling minor requirements may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Teacher Education

The teacher certification program in Secondary Social Studies Education, with a concurrent major in Political Science is available through the College of Education. A minimum 2.500 UW grade point average and a 2.500 grade point average in Political Science and Social Studies content are required to change majors. Further information may be found under the College of Education section in this Catalog.

Graduate Study

The Master of Arts and the master of public administration are offered by the School of Politics, Public Affairs, and International

Studies. The school's mission is to give graduate students an understanding of the theories and methods necessary for success in (1) research or in post-baccalaureate study in any of the subfields in political science, (2) high school teaching in social science, or (3) careers in policy analysis or public administration in local, state, or federal government, or international governmental, non-profit, or non-governmental organizations. Our graduate students have progressed to senior positions in government, the U.S. Foreign Service, and international organizations; they have pursued rewarding careers in education and the private sector; and they have advanced to Ph.D. programs in political science and related fields.

Major

International Studies, B.A.

Students graduating with a degree in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective. uwyo.edu/sppais.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirements

A major in International Studies requires 33 department hours. This includes with 9 hours of INST core courses, 9 upper-division hours in an interdisciplinary "concentration," 9 hours of required "regional study" (3 lower-division and 6 upper-division), and 6 hours of upper-division electives.

International Studies majors are also required to take 15 hours in a single foreign language or achieve fourth-semester proficiency as determined by the Department of Modern and Classical Languages.

All required courses for the major must be passed with a grade of C or better. There are numerous special topics courses offered during the academic year and these courses can fulfill the international studies requirements with approval from your adviser. Students are encouraged to satisfy the USP Q (quantitative reasoning) requirement by taking STAT 2070 - Introductory Statistics for the Social Sciences or STAT2050 - Introduction to Statistics.

Core Courses

Students take 9 hours of core coursework. INST 2350 - Introduction to Global Studies and INST 2310 - Introduction to International Relations provide the theoretical framework for the Development Studies and Security Studies tracks. INST 4950 - Capstone in International Studies (Capstone) provides the culminating experience for students completing the B.A. degree in international studies and fulfills the COM3 writing requirement for the University Studies Program.

- INST 2310 - Introduction to International Relations Credits: 3
- INST 2350 - Introduction to Global Studies Credits: 3
- INST 4950 - Capstone in International Studies Credits: 3

Concentration

International Studies majors will complete a minimum of 9 hours in a chosen area of concentration, choosing either "Development Studies" or "Security Studies".

The course offerings for each concentration are distinct, but they do in some cases overlap. Students who wish to further explore how coursework for one concentration might inform their understanding of coursework eligible for completion of the other concentration are also enabled to do this as part of their "electives". Students can also supplement eligible courses in either concentration with internationally focused courses approved by the student's advisor and the INST Program Director.

Development Studies

Development Studies focuses on theories, practices, and processes in the governance of "social" and "economic" development of communities, at multiple scales (transnational, national, subnational); relations between societies and their environments; and political-economic challenges.

For students who choose this option, 9 credits from the list below must be taken

- INST 3000 - Social Change Credits: 3
- INST 3050 - Economic Geography Credits: 3
- INST 3200 - Comparative Political Cultures Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 3910 - Global Sociology Credits: 3
- INST 4013 - Political Geography Credits: 3
- INST 4100 - Global Public Health Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4215 - European Union Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- INST 4255 - Politics of Developing Nations Credits: 3
- INST 4260 - Democratization and Regime Change Credits: 3
- INST 4340 - International Organizations Credits: 3
- INST 4350 - Culture Change Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- INST 4360 - International Peace and Conflict Credits: 3
- INST 4370 - Global Political Economy Credits: 3
- INST 4375 - Transitional Justice Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4500 - Landscapes of the Americas Credits: 3
- INST 4540 - International Marketing Credits: 3
- INST 4555 - Political Ecology Credits: 3
- INST 4560 - Global Cities Credits: 3
- INST 4570 - Cultural Geography Credits:
- ECON 4700 - Economic Development Credits: 3
- ECON 4720 - International Trade Credits: 3
- ECON 4740 - International Economics and Policy Credits: 3
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3
- INST 4990 - Topics: Credits: 1-6
  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Security Studies

Security Studies focuses on theory, practices, and processes in the governance of perceived insecurities, risks, and threats in social-cultural, political, and economic contexts, including around themes of human security, international relations, war and peace, intelligence, geopolitics, and geostrategy.

- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 4013 - Political Geography Credits: 3
- INST 4100 - Global Public Health Credits: 3
- INST 4175 - Gender, Women, and Health Credits: 3
- INST 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- INST 4255 - Politics of Developing Nations Credits: 3
- INST 4260 - Democratization and Regime Change Credits: 3
- INST 4280 - Comparative Criminal Justice Credits: 3
- INST 4290 - Inter-American Relations Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
- INST 4340 - International Organizations Credits: 3
- INST 4360 - International Peace and Conflict Credits: 3
- INST 4375 - Transitional Justice Credits: 3
- INST 4380 - International History of Human Rights Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4582 - 20th Century USForeign Relations Credits: 3
- POLS 4600 - Political Violence Credits: 3
- INST 4705 - Terrorism Credits: 3
- POLS 4870 - Seminar in International Relations Credits: 3
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3
- INST 4990 - Topics: Credits: 1-6
  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Regional Study Requirement

INST majors complete their "regional study" requirement as part of learning about the distinctiveness of different world regions as well as about the interconnections and interdependencies between them. Through "regional study" courses, students come to understand the global economic, political, and social-cultural processes that constitute and cut across world regions. INST majors must take one of the "gateway" options and at least two upper-division offerings, as listed below. Students can supplement the courses listed below with internationally focused courses approved by the student's advisor and the INST Program Director.

Gateway Options

International Studies majors must take 3 credits from the list of course offerings below:

- INST 1060 - World Regional Geography Credits: 3 (offered annually in Spring)
- INST 2230 - Introduction to Asian Studies Credits: 3 (COM2, offered every 2 years)
- INST 2240 - Introduction to African Studies Credits: 3 (COM2, offered every 2 years)
- INST 2250 - Introduction to Latin American Studies Credits: 3 (COM2, offered every 2 years)

- INST 2280 - Introduction to European Studies Credits: 3 (COM2, offered every 2 years)

Upper Division Options

International Studies majors must complete 6 credits of coursework from the below list of offerings:

- MUSC 3015 - Introduction to Global Music Credits: 3
- INST 3100 - Chinese Society Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- AAST 3130 - Global Impact of African Cultures Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- RELI 3250 - Tibetan Buddhism Credits:
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 3933 - African Philosophy Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- SPAN 4190 - 20th and 21st Century Spanish- American Texts Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- RELI 4270 - Buddhist Ethics Credits:
- INST 4290 - Inter-American Relations Credits: 3
- INST 4315 - History, Politics and Memory of the Holocaust in Europe Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4500 - Landscapes of the Americas Credits: 3
- INST 4990 - Topics: Credits: 1-6
  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Electives

Majors are required to complete 6 additional hours of upper-division coursework. This element of the major provides students with flexibility. Majors can complete this element of the major with INST "topics" courses that are not anticipated or are otherwise unlisted among the courses eligible for completing their concentration in "Development Studies" or "Security Studies," or for completing their "regional study" requirement; they can complete more credits towards their concentration than the nine they otherwise need; or they can complete more courses for the regional study requirement than they otherwise need. Students can also supplement the courses available for completion of this aspect of the major (that is, upper-division courses listed under the other requirements of the major) with internationally focused coursework across campus, or study abroad courses, with approval from the student's advisor and the INST Program Director. Some of the courses that might supplement the listed courses as part of a major's "electives" are announced in the Advising Newsletter for the major, which is distributed by the Advising Center during the registration window for each semester.

Foreign Language

All majors must complete 15 credits of the introductory sequence of foreign language courses in one language, consistent with the curriculum in the Department of Modern and Classical Languages (that is, the 1010-1020-2030-2040 sequence in one language). The same sequence (1010-1020-2030-2040) is also available in Arabic, a language program housed in the School of Politics, Public Affairs, and International Studies. Students who already are proficient in a foreign language can instead demonstrate fourth semester proficiency, as evident in a test of proficiency.

International Study Abroad and Internship Opportunities

All International Studies majors are strongly encouraged to consider taking part in a semester long study abroad program or a shorter-term faculty-led international fieldwork or study abroad course taught by UW faculty (typically offered during the Summer and Winter breaks) as a way to earn course credit towards their International Studies degree. In addition, International Studies majors are also encouraged to consider participating in paid or unpaid international internship opportunities as a way of earning additional academic credit towards their International Studies degree. For more information on international study abroad exchanges, faculty-led fieldwork courses and internship opportunities, please visit the UW Abroad Office at: uwyo.edu/geo/eda/index.

Political Science B.A.

Political Science is the study of how societies govern themselves and interact with one another. The Political Science major offers the subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements:

A major in political science requires 33 department hours, 9 of which are upper-division credits.

A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students are also required to take

- at least one seminar in political science (and its prerequisites)
- 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages
- STAT2070 - Introductory Statistics for the Social Sciences Credits: 4
- OR
- STAT2050 - Fundamentals of Statistics Credits: 4
- minimum of 9 hours of upper division credit in political science.

Core Courses

Political Science majors must take 12 credits from the following list of course offerings.

- POLS 1000 - American and Wyoming Government Credits: 3
- POLS 1200 - Non-Western Political Cultures Credits: 3
  Or
- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 2460 - Introduction to Political Philosophy Credits: 3
  Or
- POLS 3600 - American Political Thought Credits: 3

Electives

Students are required to take 18 hours of elective credits, 9 of which must be upper-division credits.

Electives may be selected from any field within Political Science to reflect the student's particular interests.

- POLS 1200 - Non-Western Political Cultures Credits: 3
- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2000 - Current Issues in American Government Credits: 3
- POLS 2070 - Politics of State and Local Government Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 2330 - Environmental Ethics Credits: 3
- POLS 2410 - Introduction to Public Administration Credits: 3
- POLS 2430 - Parties, Interest Groups and Elections Credits: 3
- POLS 2450 - Politics and Media Credits: 3

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (max 6)
- POLS 3050 - Athenian Democracy Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3200 - Comparative Political Cultures Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3 (max 6)
- POLS 3520 - Voting and Participation in America Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 3610 - Classics in Environmental Thought Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- POLS 3680 - Introduction to Empirical Political Analysis Credits: 3
- POLS 4013 - Political Geography Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4260 - Democratization and Regime Change Credits: 3
- POLS 4290 - Inter-American Relations Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4340 - International Organizations Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4375 - Transitional Justice Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- POLS 4420 - Seminar in Public Administration Credits: 3 (max 6)
- POLS 4430 - United States Presidency Credits: 3
- POLS 4435 - Presidential Elections Credits: 3
- POLS 4445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 4455 - Energy Security Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4520 - Public Opinion Credits: 3
- POLS 4530 - U.S. Congress Credits: 3
- POLS 4550 - Internship in Government Credits: 1-6 *
- POLS 4560 - Washington Semester Program Credits: 15 *
- POLS 4600 - Political Violence Credits: 3
- POLS 4640 - Political Philosophy: Ancient and Medieval Credits: 3
- POLS 4650 - Political Philosophy: Modern Credits: 3
- POLS 4660 - Political Philosophy: Contemporary Credits: 3
- POLS 4685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 4700 - Readings in Political Science Credits: 1-3 (max 6)

- POLS 4705 - Terrorism Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (max 9)
- POLS 4720 - Workshop in Practical Politics Credits: 1-3 (max 6)
- POLS 4810 - Seminar in Political Philosophy Credits: 3 (max 6)
- POLS 4840 - Seminar in Public Law Credits: 3 (max 6)
- POLS 4850 - Seminar in American Politics and Institutions Credits: 3 (max 6)
- POLS 4870 - Seminar in International Relations Credits: 3 (max 6)
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3 (max 6)

*Maximum of 6 hours of internship credit can be applied to the 33 hours required for the major.

Political Science, B.A./M.A.

The Political Science 5 Year B.A./M.A. Program offers highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor's degree (whether B.A. or B.S.) and thereby earn a graduate degree more efficiently. Political science majors with a cumulative major GPA of 3.5 or higher may be invited to apply at the outset of the second semester of the junior year.

Interested students will submit an application and 2 letters of recommendation, at least one from a political science faculty to be reviewed, along with unofficial, current UW transcripts, by the M.A. Director and Committee. Upon provisional acceptance into the program in the junior year, students will be required to take the GRE. GRE scores will be considered for full and final acceptance to the M.A. program, which will be made once the student has completed the bachelor's degree.

Provisional acceptance to the 5 Year B.A./M.A. program in Political Science will allow students to apply up to six credit hours of 5000-level courses toward both the B.A./B.S. and M.A. degree programs. To earn graduate level credit, students must achieve at least a 3.000 in the course. By successfully completing up to six credit hours of graduate coursework during their senior year, these students will have demonstrated their ability to do graduate level coursework as undergraduates, easing their transition into the Master's Program in Political Science. Interested students may reserve up to six additional credits for graduate study that do not apply to the undergraduate degree by securing appropriate approvals as explained in the Registrar's "Request to Reserve Coursework for Graduate Credit" prior to taking the coursework.

Students will be granted the BA/BS upon completion of the credit hours required for the undergraduate degree in political science. Students must complete the BA/BS before formally entering the MA program. To remain in good standing in the program, students must maintain a cumulative and departmental GPA of 3.200 and earn at least a 3.000 in all 5000-level courses. Failure to meet the GPA requirements places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be suspended from the program. Students in the program are encouraged to take the Plan B option. Please see the Graduate Study section to find the degree requirements of the M.A. in Political Science.

Political Science, B.S.

Political Science studies how states govern themselves and interact. Subfields include: American politics, comparative government, international relations, political philosophy, public law, and public administration with an emphasis on statistical analysis and quantitative methods.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours.

A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students are also required to take

- at least one seminar in political science (and its prerequisites)
- 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
  OR
- STAT 2050 - Fundamentals of Statistics Credits: 4
- minimum of 9 hours of upper division credit in political science.

Introductory Courses

Students are required to complete the following four introductory courses:

- POLS 1000 - American and Wyoming Government Credits: 3

- POLS 1200 - Non-Western Political Cultures Credits: 3
  OR
- POLS 1250 - Introduction to Comparative Government Credits: 3

- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 2460 - Introduction to Political Philosophy Credits: 3

OR

- POLS 3600 - American Political Thought Credits: 3

Minor

American Politics Minor

The American Politics minor delves into the mechanics of politcs in the United States by studying historical and current implications.

Requirements

A minor in American Politics requires

- POLS 1000 - American and Wyoming Government Credits: 3

- POLS 4850 - Seminar in American Politics and Institutions Credits: 3
  OR
- POLS 4840 - Seminar in Public Law Credits: 3

- 12 hours from an approved list of courses, with a minimum of 9 hours at the 3000-level or above.

Approved American Politics Minor Courses

- POLS 2000 - Current Issues in American Government Credits: 3
- POLS 2070 - Politics of State and Local Government Credits: 3
- POLS 2410 - Introduction to Public Administration Credits: 3
- POLS 2430 - Parties, Interest Groups and Elections Credits: 3
- POLS 2450 - Politics and Media Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3520 - Voting and Participation in America Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4420 - Seminar in Public Administration Credits: 3 (Max. 6)
- POLS 4430 - United States Presidency Credits: 3
- POLS 4435 - Presidential Elections Credits: 3
- POLS 4520 - Public Opinion Credits: 3
- POLS 4530 - U.S. Congress Credits: 3
- POLS 4550 - Internship in Government Credits: 1-6 (dept. approval required)(1-6)
- POLS 4560 - Washington Semester Program Credits: 15 (Max. 6)
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required)(Max. 9)

- POLS 4720 - Workshop in Practical Politics Credits: 1-3 (Max. 6)
- POLS 4840 - Seminar in Public Law Credits: 3 (Max. 6)
- POLS 4850 - Seminar in American Politics and Institutions Credits: 3 (Max. 6)

Asian Studies Minor

The Asian Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of an Asian region or a single country. The program emphasizes a social science approach to the study of Asian history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Asia is defined first and foremost as a geographic entity to include Western, Northern, Central, South and East Asian areas. Thus, for example, countries such as modern Turkey and areas such as the 'Middle East' can rightly be included in 'Asia' alongside areas more traditionally understood as part of Asia such as China and India.

Course Requirements (18 Credits)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours)

All Asian Studies Minor students must complete one of two required Gateway courses depending on their primary area of interest within Asia.

- INST 2230 - Introduction to Asian Studies Credits: 3 (G/COM2)
  OR
- POLS 3270 - Governments and Politics of the Middle East Credits: 3

Asian Studies Area Courses (15 Credit Hours)

Asian Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved Asian Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Asian Studies Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what Asian Studies Area courses are currently being offered.

Approved Asian Studies Area Courses

- ART 2720 - Introduction to the Art and Culture of Islam
- ART 4650 - International Study of Art Credits: 3
- CHIN 1101 - First-Year Seminar Credits: 3
- CHIN 2041 - Contemporary and Traditional Chinese Culture Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3

- HIST 2320 - History of Islam Credits: 3
  OR
- RELI 2320 - History of Islam Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 3210 - The Islamic World in the Premodern Era
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- GWST 4335 - Women and Islam Credits: 3
- HIST 4520 - Modern Far East: China, Japan and India
- INST 2230 - Introduction to Asian Studies Credits: 3
- INST 3100 - Chinese Society Credits: 3
  OR
- SOC 3100 - Chinese Society Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- INST 4560 - Global Cities Credits: 3
- INST 4590 - Sustainable Business Practices Credits: 3
  OR
- LANG 2150 - Manga: History and Culture Credits: 3
- LANG 3105 - Major Themes in Chinese and Japanese Literature Credits: 3
- LANG 3140 - Anime: History and Culture Credits: 3
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam Credits: 3
- RELI 2050 - Religions of Asia Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- RELI 3320 - Eastern Thought Credits: 3
  OR
- PHIL 3320 - Eastern Thought Credits: 3
- RELI 3340 - Mysticism, Yoga, and Enlightenment in the East Credits: 3
- RELI 3344 - Gods, Avatars, Heroes, and Mystics
- SOC 3050 - Japanese Society

Optional Asian Study Abroad Component

Asian Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Asia to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the Asian Studies Area Course requirement on the approval of the student's designated minor advisor. Optional Asian Foreign Language Component Asian Studies Minor students are also strongly encouraged to learn an Asian foreign language as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower-division (1000-2000) credit hours of an Asian foreign language may be counted towards fulfillment of the Asian Studies Area Course requirement. 'Asian' languages at UW include Japanese, Chinese and Arabic. However, Asian Studies Minor, students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be

fulfilled by other Asian language instruction at UW, other relevant in-country summer intensive programs, or languagefocused study abroad programs.

European Studies Minor

The European Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of a European region or a single country.

The program emphasizes a social science approach to the study of modern European history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Europe is defined first and foremost as a geographic entity running from the Atlantic to the Urals and from Scandinavia to the Mediterranean and the Caucasus Mountains. Courses that transcend these boundaries should include the study of Europe in a prominent way to count toward the minor.

All required courses for the major must be passed with a grade of C or better. A course cannot simultaneously fulfill more than one major requirement.

Course Requirements (18 Hours)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours)

All European Studies Minor students must complete one of two required Gateway courses, either:

- INST 2280 - Introduction to European Studies Credits: 3 (COM2)
  OR
- POLS 2200 - Politics of Europe Credits: 3 (COM2)
  OR
- INST 2200 - Politics of Europe Credits: 3 (COM 2)

European Studies Area Courses (15 Credit Hours)

European Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved European Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what European Studies Area courses are currently being offered.

Approved European Studies Area Courses

- A&S 2200 - British Life and Culture
- FREN 2130 - Contemporary French Culture Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4085 - Studies in French Culture
- GERM 3006 - 20th Century German Culture and Civilization Credits: 3

- GERM 3150 - German History and Culture Credits: 3
- GERM 4265 - Divided Nation: Politics and Culture in Germany 1945 - 1990
- GERM 4285 - 20th/21st Century German Film Credits: 3
- HIST 2080 - Holocaust Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4280 - France Since 1814
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- INST 2280 - Introduction to European Studies Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
  OR
- POLS 4330 - American Foreign Relations Credits: 3
  OR
- SOC 4330 - The World System

- INST 4380 - International History of Human Rights Credits: 3
- INST 4881 - International Social Welfare and Social Development Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 4215 - European Union Credits: 3
- RELI 4150 - Christianity, Jews and Muslims in Iberia
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3

Optional European Study Abroad Component

European Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Europe to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the European Studies Area Course requirement on the approval of the student's designated minor advisor.

Optional European Foreign Language Component

European Studies Minor students are also strongly encouraged to learn an European foreign language (other than English) as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower division (1000-2000) credit hours of an European foreign language may be counted towards fulfillment of the European Studies Area Course requirement. 'European' languages at UW include French, German, and Spanish. However, European Studies Minor students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other European language instruction at UW, other relevant in-country summer intensive programs, or language-focused study abroad programs.

International Relations and Comparative Politics Minor

Requirements

A minor in International Relations and Comparative Politics requires

- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 1200 - Non-Western Political Cultures Credits: 3
  OR
- POLS 1250 - Introduction to Comparative Government Credits: 3

- POLS 4870 - Seminar in International Relations Credits: 3
  OR
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3

- 9 hours from an approved list of courses, with a minimum of 6 hours at the 3000-level or above.

Approved International Relations and Comparative Politics Minor Courses

- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3200 - Comparative Political Cultures Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3 (Max. 6)
- POLS 4013 - Political Geography Credits: 3
- POLS 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4260 - Democratization and Regime Change Credits: 3
- POLS 4290 - Inter-American Relations Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4340 - International Organizations Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4375 - Transitional Justice Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- POLS 4445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4600 - Political Violence Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required)(Max. 6)
- POLS 4870 - Seminar in International Relations Credits: 3 (Max. 6)
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3 (Max. 6)

International Studies Graduate Minor

Students graduating with a minor in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Additional Requirements

A graduate minor in international studies provides students in graduate programs other than international studies with the opportunity to acquire a basic graduate-level familiarity with international relations, global processes and cultural diversity around the world. Students acquire a foundation in intergovernmental relations and research methodology. Beyond this, students work closely with a graduate director to fashion a program of study appropriate for their interests and post-graduate plans. The minor complements several other graduate degree programs.

Prerequisites for Admission

Declaration of an international studies minor is contingent on admission to a master's or doctoral degree program. Application is in the form of a letter of interest to the director of the program, including the background, anticipated course of study, and reason for seeking the minor. An interview with the director is also required. All prerequisites for entering the graduate program in international studies as a major apply to the minor with the exception of proficiency in a second language. Students must be prepared for coursework in international studies at the graduate level and be willing to take prerequisite courses if necessary.

Course and Committee Requirements

Graduate students minoring in international studies must satisfy the requirements of their graduate major and take twelve credits of guided graduate coursework in international studies. With the approval of the department of the graduate major, these twelve hours may also count toward the major. Students are required to take at least one advanced theory course (INST 5200) and one advanced research methods course. All courses will be determined in consultation with the program director.

International Studies Minor

Students graduating with a minor in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Additional Information

A minor in international studies requires 12 hours of a single foreign language and 15 hours of international studies curriculum, with a minimum of 9 hours at the 3000-level or above.

Middle East/North Africa Minor

For the purposes of this minor, we define Middle East/North Africa loosely, to include the peoples, languages, religions and heritages of the wide swath of present-day states from Morocco (west) to Iran (east), and from Turkey (north) to Yemen (south), from ancient times to modern times. This proposal is for a "stand-alone" minor, which can be fulfilled by any UW student in any college, any major.

General Information

- All students must complete a prerequisite of two terms of a relevant Middle East language such as Arabic, Hebrew, Persian (Farsi) or Turkish, or demonstrate proficiency at the one-year level. Students then complete 15-16 credit hours with grade of "C" or higher.
- Students must maintain a 2.0 GPA to complete the Minor.
- Although Arabic is the only Language formally offered at UW, instruction in Hebrew for academic credit is at times available; students may also provide evidence of language proficiency of a minimum equivalent to a 0+ level on the ILR scale, indicating basic familiarity with the language.
- Students who are considering the Minor would typically need to begin planning for this during their Freshman or Sophomore years.
- Pre-existing knowledge of a MENA language, however, would allow for all requirements of the MENA minor to be completed in just two academic years.

Arabic Language & Culture Track

Language prerequisites to Minor

(8 credits, does not count toward minor)

- ARBC 1010 - First Year Arabic I Credits: 4
- ARBC 1020 - First Year Arabic II Credits: 4

Language courses for the minor, required

- ARBC 2030 - Second Year Arabic I Credits: 4
- ARBC 2040 - Second Year Arabic II Credits: 3
- ARBC 3050 - Modern Arabic and its Dialects Credits: 3
- ARBC 3060 - Arabic Writing Credits: 3

Mandatory semester language study abroad or equivalent

Minimum of 3 credits must be from MENA language study abroad in a MENA country. For students that cannot travel abroad, this requirement may be fulfilled by participation in a domestic language immersion program (e.g. Concordia College's Language Villages, among others)

Required Elective course - 3 credits

- HIST 3220 - History of the Modern Middle East Credits: 3
  OR
- RELI 3220 - History of the Modern Middle East Credits: 3
- INST 4990 - Topics: Credits: 1-6
  *Current Issues in the Arab World
  *US Foreign Policy in the Middle East

- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- RELI 2490 - Special Topics in Religion Credits: 1-3

Total number of credits: 16

Middle East/North Africa Studies Track

Language Prerequisite to the Minor

(credits for this do not count toward minor)

- ARBC 1010 - First Year Arabic I Credits: 4
- ARBC 1020 - First Year Arabic II Credits: 4
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
  *for Hebrew or other Middle Eastern language
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4
  *for Hebrew or other Middle Eastern language;

Required Content courses

- RELI 3220 - History of the Modern Middle East Credits: 3
  OR
- HIST 3220 - History of the Modern Middle East Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3

Distributed requirements

Middle East/North Africa art - 3 credits

One course focused on Middle East/North Africa art

- ART 3002 - Special Topics In: Credits: 3
- ART 3720 - Art and Architecture of Medieval Islam Credits: 3
- ART 4790 - Art Seminar Credits: 1-3

History Focus - 3 credits

One additional course with a focus on History (other than HIST 3220), any period with at least 50% MENA content - must be approved by MENA Studies Program Director.

Electives - 3 credits

- Middle Eastern language study beyond pre-req level, such as ARBC 2030 and above.
- Study abroad in the Middle East: Faculty-Led study abroad courses or intensive or semester courses focused on Middle Eastern languages, cultures, politics, etc.
- Courses from the full list below.

Total Credits - 15

Political Theory Minor

A minor in Political Theory offers an opportunity for interdisciplinary study.

Requirements

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 4810 - Seminar in Political Philosophy Credits: 3
- 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 6 hours at the 3000-level or above.

Approved Political Theory Minor Courses

- POLS 2330 - Environmental Ethics Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3050 - Athenian Democracy Credits: 3
- POLS 3610 - Classics in Environmental Thought Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4640 - Political Philosophy: Ancient and Medieval Credits: 3
- POLS 4650 - Political Philosophy: Modern Credits: 3
- POLS 4660 - Political Philosophy: Contemporary Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 2200 - Politics of Europe Credits: 3 (Max. 6)
- SOC 3900 - Social Theory

Public Law Minor

A minor in Public Law offers an opportunity for interdisciplinary study.

Requirements

- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 3 hours at the 3000-level or above.

Approved Public Law Minor Courses

- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required) (Max. 6)
- AGEC 3400 - Agricultural Law Credits: 3

- COJO 4500 - Mass Communication Law Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3

- CRMJ 4350 - Sociology of Law Credits: 3
  OR
- SOC 4350 - Sociology of Law Credits: 3
- CRMJ 4540 - Gender and Crime Credits: 3
  OR
- GWST 4540 - Gender and Crime Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3
  OR
- PSYC 4730 - Psychology and Law Credits: 3
- HIST 4515 - American Legal History Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3

Graduate

International Studies, M.A.

MA students will be able to pursue international, interdisciplinary research in order learn about global problems from a variety of historical, political, social, cultural, and economic perspectives.

Plan A (Thesis)

Students are encouraged to construct, with the adviser's approval, a program that focuses their own intellectual interests and career plans. To promote that end, students should be prepared to file a plan of study with the graduate adviser during the second semester of coursework.

No later than the second semester in residence, each student shall select a graduate committee to oversee his or her academic work. The committee will be chaired by the student's major professor and must have at least one member from outside of The School of Politics, Public Affairs, and International Studies. Students also will prepare a thesis proposal and give a presentation of their preliminary project before the International Studies faculty and complete a thesis prospectus defense with their graduate committee by the end of their second semester.

Students must pass an oral examination at the completion of their program. Normally, examination will center on the thesis, but may also encompass coursework of the candidate.

Required Coursework

Advanced Theory Course

- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

Research Methods Course

- INST 5400 - International Social Science Research Methods Credits: 3

Additional Information

Students take the Plan A (thesis). Students must have a minimum of 26 hours of graded non-thesis coursework and 4 hours of thesis.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree in any major. Foreign students, who are non-native English speakers, must pass the Oral Proficiency Interview (OPI).

Program Specific Degree Requirements

Master's Program

Students must meet three requirements:

1. Each student must take INST 5400.
2. Each student must take INST 5200.
3. Each student must demonstrate proficiency in a foreign language, accomplished in the course of the program or from previous experience or coursework. Foreign language hours do not count toward the M.A. degree.

The program also offers a joint International Studies/Environment and Natural Resources degree. See www.uwyo.edu/sppais for specific degree requirements.

Political Science, M.A.

Political Science studies how states govern themselves and interact. Subfields include: American politics, comparative government, international relations, political philosophy, public law, and public administration.

Degree Requirements

This degree requires 30 hours of graduate credit.

Plan A (Thesis)

Graduate Credit

At least 30 hours of graduate credit, to include:

- At least 6 additional hours of coursework in political science.
- A maximum of 9 hours of coursework in disciplines other than political science.
- A minimum of 4 hours thesis research.
- A master's thesis demonstrating independent research, written under the supervision of the major professor.
- An oral examination conducted by the graduate committee covering all coursework and the thesis.
- No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.
- Students must maintain a graduate GPA of 3.000.

- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6
  And
- INST 5400 - International Social Science Research Methods Credits: 3

Plan B (Non-Thesis)

Graduate Credit

At least 30 hours of graduate credit, to include:

- At least 6 additional hours of coursework in political science.
- A maximum of 12 hours of coursework in disciplines other than political science.
- Plan B paper that reflects the quality but not scope of a master's thesis, written under the supervision of the major professor.
- An oral examination conducted by the graduate committee covering all coursework and the Plan B paper.
- No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.
- Students must maintain a graduate GPA of 3.000.
- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6
  And
- INST 5400 - International Social Science Research Methods Credits: 3

Public Administration (MPA)

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics based program where complicated issues of administrative decision making are the hallmarks of professional life.

Degree Requirements

This degree requires 39 Graduate credits.

Admissions

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI).

Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:

- 24 hours of core credit,
- 15 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Current Core Courses

Thirty-nine hours of graduate credit, to include:

- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5400 - Public Personnel Management Credits: 3
- PBAD 5410 - Administrative Behavior and Theory of Organization Credits: 3
- PBAD 5440 - Principles and Processes of Government Budgeting Credits: 3
- PBAD 5480 - Ethics In Government Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- PBAD 5684 - Empirical Analysis for Public Administration Credits: 3
- PBAD 5690 - Capstone in Public Management Credits: 3

Approved Elective Credit

- POLS 4052 - Federal Land Politics Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- CRMJ 5000 - Survey of Criminal Justice Credits: 3
- POLS 5051 - Environmental Politics Credits: 3
- CNSL 5060 - Counseling Ethics and Professional Issues Credits: 3
- CRMJ 5100 - Public Policy and Crime Credits: 3
- CRMJ 5151 - Crime Causation Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- CRMJ 5280 - Comparative Criminal Justice Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 5450 - Administrative Regulation Credits: 3
- PBAD 5460 - Public Administration and Law Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- CRMJ 5500 - Internship in Criminal Justice Credits: 3
- PBAD 5500 - Internship in Public Administration Credits: 1
- EDRE 5530 - Introduction To Research Credits: 3
- POLS 5530 - USCongress Credits: 3
- CRMJ 5540 - Gender and Crime Credits: 3
- PBAD 5540 - Public Policy Perspectives Credits: 3
- PBAD 5560 - Public Administration in Literature and Film Credits: 3
- CRMJ 5590 - Green Criminology Credits: 3

- POLS 5600 - Political Violence Credits: 3
- POLS 5685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- POLS 5810 - Seminar in Political Philosophy Credits: 3
- CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law Credits: 3

Public Administration (MPA/JD)

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics based program where complicated issues of administrative decision making are the hallmarks of professional life.

Admissions

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI).

Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:

- 24 hours of core credit,
- 15 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Current Core Courses

- POLS 5690 - Capstone in Public Management Credits: 3

Academic Regulations

- A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty (see Academic Regulations). In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to

12 hours of credits earned in the J.D. program. For additional information regarding these joint degree programs, contact the College of Law or the joint program of interest.

- Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.
- Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course.
- Students must maintain a graduate GPA of 3.000.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

Department of Psychology

135 Biological Sciences Building,
(307) 766-6303
FAX: (307) 766-2926
Web site: www.uwyo.edu/psychology
Department Chair: Sean McCrea

Professors:

KAREN BARTSCH ESTES, B.S. Colorado State University 1981; M.A. Oxford University 1983; Ph.D. University of Michigan 1988; Professor of Psychology 2007, 1992.

KYLE P. De YOUNG, B.S. University of Iowa 2004; M.A. State University of New York at Albany 2008; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

MATTHEW J. GRAY, B.A. Creighton University 1993; M.S. Drake University 1995; Ph.D. University of Mississippi 2000; Professor of Psychology 2014, 2002.

CYNTHIA M. HARTUNG, B.S. University of Wisconsin-Madison 1990; M.A. University of Kentucky 1993; Ph.D. University of Kentucky 1998; Professor of Psychology 2019, 2007.

ALISON R. LOOBY, B.A. University of California-San Diego 2002; M.A. State University of New York at Albany 2007; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

SEAN M. McCREA, B.A. Bucknell University 1996; Ph.D. Indiana University 2002; Professor of Psychology 2019, 2009.

CHRISTINE L. McKIBBIN, B.S. Michigan State University 1991; M.S. University of North Texas 1994; Ph.D. University of North Texas 1997; Professor of Psychology 2019, 2007.

CAROLYN M. PEPPER, B.S. Western Michigan University 1989; M.A. State University of New York at Stony Brook 1992; Ph.D. State University of New York at Stony Brook 1995; Professor of Psychology 2011, 2002.

BENJAMIN M. WILKOWSKI, B.A. Ohio University 2002; M.S. North Dakota State University 2005; Ph.D. North Dakota State University 2008; Professor of Psychology 2020, 2008.

Associate Professors:

JOSHUA D. CLAPP, B.A. University of Wyoming 2003; M.A. State University of New York at Buffalo 2008; Ph.D. 2012; Associate Professor of Psychology 2018, 2012.

MEREDITH E. MINEAR, B.S. University of Illinois at Urbana-Champaign 1994; Ph.D. University of Michigan 2004; Associate Professor of Psychology 2019, 2013.

Assistant Professors:

KAYLA A. BURD, B.A. Hofstra University 2010; M.A. Cornell University 2016; Ph.D. 2018; Assistant Professor of Psychology 2020.

ERIN HARRINGTON, B.S. Valparaiso University 2015; M.S. Oklahoma State University 2017; Ph.D. Oklahoma State State Universit, 2021; Assistant Professor of Psychology 2023.

CHRISTINA MCDONNELL, B.A. University of Notre Dame 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

HANNAH PHALEN, B.A. University of Colorado Colorado Springs 2015; M.S. Arizona State University 2018; J.D. Arizona State University 2019; Ph.D. Arizona State University 2023; Assistant Professor of Psychology 2023.

KASEY STANTON, B.S. Montana State University 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

Clinical Professors

CATHERINE P. CARRICO, B.A. Austin College; Ph.D. University of Northern Colorado; Clinical Associate Professor 2020.

ANNE STEVENS, B.A. Davidson College 2007, M.A. Appalachian State University 2014; Ph.D. University of Wyoming 2020; Clinical Assistant Professor of Psychology 2021.

Academic Lecturer:

JARROD BOCK, B.S. University of Wisconsin-La Crosse 2013; M.S. University of Wisconsin-Oshkosh 2015; M.S. Oklahoma State University, Stillwater 2017; Ph.D. Oklahoma State University, Stillwater; Assistant Lecturer in Psychology 2024.

TARA K. CLAPP, B.A. State University of New York at Buffalo 2005; M.S. Niagara University 2010; Senior Academic Professional Lecturer in Psychology 2018, 2012.

SCOTT FRENG, B.S. Black Hills State University 1995; M.A. University of South Dakota 1998; Ph.D. University of Nebraska - Lincoln 2001; Senior Lecturer in Psychology 2013, 2003.

MARIA I. KUZNETSOVA, B.A. Syktyvkar State University-Russia 2000; M.S. University of South Carolina-Aiken 2005; Ph.D. Virginia Commonwealth University 2011; Senior Academic Professional Lecturer in Psychology 2017, 2011.

Professor Emeritus

George Blau, David Estes, Charles J. Ksir, Karen B. Nicholas, Narina Nunez

Department Overview

The Department of Psychology offers coursework at several levels:

1. Introductory courses for students in other programs who wish an elementary knowledge of psychology.
2. Courses supportive of work in other majors.
3. An undergraduate major that is sufficiently flexible to allow students to prepare for graduate programs in psychology, professional schools (e.g. law, medicine) or for employment after graduation.
4. Graduate course work leading to the Ph.D. in clinical psychology, social psychology, cognition/cognitive development, or psychology and law.

Facilities are available for course work and laboratory experiences in areas of psychology such as clinical, cognition, personality, social, biological psychology, cognitive development, and psychology and law.

Students who wish to increase chances of employment related to their undergraduate majors should consult an adviser concerning areas of specialization within psychology.

Students planning graduate work in psychology should consult with their faculty adviser concerning career choices and development.

Credit by Examination

Credit by examination will be allowed only for PSYC 1000. The examination accepted is the College Level Examination Program (CLEP); the passing score is 50.

Advanced Placement

The psychology department will accept a score of 4 on the AP exam for credit in PSYC 1000, effective Fall 2015.

Major

Psychology, B.S.

Learn empirical approaches to understanding human behavior from biological, clinical, cognitive, developmental, neuroscientific, and social psychological perspectives. Develop skills in critical thinking, communication, and scientific research.

Degree Requirements

B.S. (120 Hours) Grade of C or better required in all major coursework.33 total hours in Psychology (Maximum 60) - 18 hours at the 3000 level or higher

Learning Outcomes

Core Outcome 1: Develop and demonstrate competency in research methods and statistical analysis

Core Outcome 2: Demonstrate basic scientific competence, critical thinking, and problem solving skills

Core outcome 3: Apply knowledge of psychology in the community while intergrating cultural considerations, diversity, equity, and inclusion

Core outcome 4: Acquire broad knowledge across subfields within psychology

Core outcome 5: Understand and demonstrate professional and ethical knowlege and responsibility

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

D - Diversity 3 credits
G - Global 3 Credits

Students Must Complete the Following Courses:

- PSYC 1000 - General Psychology Credits: 3
- PSYC 2000 - Research Psychological Methods Credits: 4

Four of Five Cores:

Biological Core

- PSYC 2210 - Drugs and Behavior Credits: 3
  OR
- PSYC 2080 - Biological Psychology Credits: 3

Social Psychology Core

- PSYC 2380 - Social Psychology Credits: 3

Clinical Core

- PSYC 2340 - Psychopathology Credits: 3

Cognitive Core

- PSYC 3120 - Cognitive Psychology Credits: 3

Developmental Core

- PSYC 2300 - Psychology of Child Development Credits: 3

One of the Following

Additionally **one** of the following restricted enrollment (seminar or writing intensive) courses is required:

- PSYC 4150 - Cognitive Development Credits: 3
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3
- PSYC 4350 - Psychology of Adulthood Credits: 3
- PSYC 4380 - Death and Dying Credits: 3
- PSYC 4390 - Personality Science Credits: 3
- PSYC 4400 - Principles of Psychological Testing Credits: 3
- PSYC 4740 - Advanced Social Psychology Credits: 3
- PSYC 4860 - Seminar Credits: 1-6
- PSYC 4040 - Cognitive Neuroscience Credits: 4

A total of 18 hours at the 3000 level or higer are required

Also Required

Also required are

- 6 hours of anthropology, communication/journalism, criminal justice, economics, political science, or sociology;
- LIFE 1003 - Current Issues in Biology Credits: 4
  OR
- LIFE 1010 - General Biology Credits: 4

- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

STEM Course

One approved 3-4 credit hour STEM course:

- CHEM 1000 - Introductory Chemistry Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- ESS 4001 - Analysis of Nature's Data Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- ZOO 2040
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 2041
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MICR 2021 - General Microbiology Credits: 4
- MICR 4001 - Epidemiology (Diseases in Population) Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- PHYS 1050 - Concepts of Physics Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2000 - Statistics and the World Credits: 3
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3

Additional Requirements

A major requires a minimum of 33 semester hours and may not exceed 60 hours in psychology. Of these, 18 hours must be at the 3000 level or above. These upper-division courses must also be taken from at least two different members of the psychology department faculty listed in this *Catalog*.

Students who have an established UW GPA and who wish to change their major to Psychology, or to add Psychology as a major, will be required to have a UW GPA of at least 2.500.

For graduation, students must receive a C or better grade in all courses taken to satisfy department requirements.

Psychology courses taken 15 or more years ago will not be used to satisfy degree requirements.

Minor

Aging Studies Minor

The aging studies minor program provides students with a comprehensive understanding of the challenges and opportunities associated with an aging population and prepares them to contribute to the development of policies and programs that promote healthy aging and enhance the quality of life for the elderly.

Degree Requirements

A minor in aging studies requires 18 credit hours.

Core Courses

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- PSYC 3400 - Community Resources for Older Adults Credits: 3
- PSYC 4970 - Aging Minor Internship Credits: 1-6

Electives

(9 credits hours - 6 credits must be outside student major)
An interdisciplinary program, current approved courses are offered through the College of Agriculture, College of Arts and Sciences, and College of Health Sciences.

Background Check

Students seeking the minor in Aging Studies will be required to obtain a background check. Please contact us for specific information.

Psychology Minor

Learn empirical approaches to understanding human behavior from biological, clinical, cognitive, developmental, neuroscientific, and social psychological perspectives. Develop skills in critical thinking, communication, and scientific research.

Degree Requirements

A minor in psychology requires 18 semester hours in psychology. These must include PSYC 1000 or equivalent and 9 hours at the 3000- level or above. A grade of C or better is required in all minor courses.

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Graduate

Psychology, Ph.D.

The Department of Psychology offers the doctor of philosophy in psychology with programs in clinical (APA accredited) psychology, social psychology, cognition/ cognitive development, and psychology and law.

Degree Requirements

minimum of 72 hours to include at least 42 hours of coursework.

Doctoral Programs

- Clinical Psychology
- Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Program Specific Admission Requirements

The deadline for receipt of all application materials is December 1.

We only admit students one time per year. Our graduate students begin their programs of study in the fall semester.

Although our graduate programs technically consist of separate master's and doctoral degree components, only students who are applying for, and who expect to complete, the doctoral program are considered for admission. That is, we do not offer a terminal master's degree.

Application materials include the application, one to two page statement of purpose, undergraduate and graduate (if applicable) transcripts, curriculum vitae, and three letters of recommendation. An application fee of $50 is required.

Applications are evaluated based on the applicants' academic qualifications (e.g., undergraduate GPA, graduate GPA if applicable, course specific grades) and stated research and (if applicable) clinical interests. Particular attention is paid to the goodness of fit between the applicant's expressed research/clinical interests and the particular strengths and offerings of our program.

Our program does not employ a set of formal "cut-offs" with regard to any of the quantitative application elements (e.g., undergraduate/graduate GPA). Often a strong record in one area may make up for a weakness in another area. Applicants interested in information on the qualifications of admitted students should consult the student summary data (www.uwyo.edu/psychology).

Program Specific Graduate Assistantships

Applicants are considered for graduate assistantships at the time of admission. Graduate students typically receive some departmental financial support for the first four years.

Doctoral Programs

Clinical Psychology

Students complete a four-year, on-campus sequence of required courses covering core areas of psychology and clinical competency. In addition, the following are required: successful completion of a thesis, a preliminary comprehensive examination, a dissertation, one summer clerkship, and a full year APA accredited internship.

Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Students complete course requirements in topics designated as core areas of psychology, a preliminary comprehensive examination, and a research-based dissertation.

Department of Theatre and Dance

2099 Buchanan Center for the
Performing Arts, (307) 766-5100
Email: theatre_dance@uwyo.edu
Web site: uwyo.edu/thd/
Department Head: Christie Zimmerman

Professors:

CECILIA ARAGÓN, B.S. McMurry University 1991; M.A. University of New Mexico 1996; Ph.D. Arizona State University 2003; Professor of Theatre & Dance 2017, 2005.

CHRISTIE ZIMMERMAN, B.A. University of New Orleans 2000; M.F.A. University of California, Irvine 2002; Professor of Theatre & Dance 2023.

Associate Professors:

Assistant Professors:

ERIN CARTER, B.F.A. Webster University, 2016; M.F.A. University of Tennessee, Knoxville, 2019; Assistant Professor, Theatre & Dance, 2023.

MATTHEW GREENBERG, B.F.A. Ithaca College, 2015; M.F.A. The Ohio State University, 2021; Assistant Professor, Theatre & Dance, 2022.

SCOTT TEDMON-JONES, B.F.A. University of Wyoming, 2001; M.F.A Carnegie Mellon University, 2010; Assistant Professor, Theatre & Dance, 2018.

CAT KAMRATH MONSON, B.A. Loyola Marymount University, 2013; M.F.A. University of Utah, 2016; Assistant Professor, Theatre & Dance, 2022.

AARON WOOD, B.F.A. University of Wyoming, 2003; M.F.A. University of Utah, 2007; Assistant Professor, Theatre & Dance, 2022.

Assistant Lecturers:

JASON BANKS, B.F.A. University of Florida 2004; M.F.A. The Ohio State University 2007; Assistant Lecturer, FTRC, 2020.

LANDEE LOCKHART, B.T.D. University of Wyoming, 2001; B.A. University of Wyoming, 2001; M.F.A. University of Houston, 2006; Assistant Lecturer, FTRC, 2022.

JULIANA FREUDE, B.A. University of Toledo, 2018; M.F.A. St. Mary's College of California, 2020; Assistant Lecturer, FTRC, 2022.

Emeritus Professors:

Larry Hazlett, Rebecca Hilliker, Leroy Hodgson, Marsha Knight, Patricia Tate, Ron Steger, Lee Selting, Margaret Wilson

Degrees Offered

The Department of Theatre and Dance offers curricula leading to the Bachelor of Arts (BA) degree and the Bachelor of Fine Arts (BFA) degree and courses which fulfill a part of University Studies and various colleges' requirements, including the College of Arts and Sciences.

Curricula

Students may not take a course for S/U credit to satisfy course requirements in the major. This does not apply to courses offered for S/U only. Requirements for students majoring in the areas of the department are indicated below.

Theatre

The study of theatre provides students with a broad understanding of the art of theatre in a liberal arts college. The study of theatre is considered to provide a basis for more specialized theatre study in a graduate or professional school. The liberal arts education in theatre together with extensive experience in the production program also provides the foundation for a professional career in theatre, motion pictures, or television drama for those individuals with special desires and abilities. Secondary teaching certification in theatre can be obtained through this program of study.

Dance

The dance concentration within the Department of Theatre and Dance is designed to provide students with a broad foundation in the humanities and specific emphasis in performance and production aspects of dance. Students pursuing this course of study will have opportunities to attain technical competency in ballet and/or modern dance, to perform in yearly dance productions, to obtain practical experience in the fundamentals of teaching dance and to gain experience in technical theatre as an aid to dance production. The program seeks to provide a comprehensive view of dance as an artistically expressive medium, as well as a creative and recreational tool to human expression.

Students completing this program will qualify for more advanced private instruction as well as advanced academic instruction.

All dance students are matriculated into the BA degree. Students wishing to apply for the BFA in Dance Performance or BFA in Dance Science do so the second semester of their freshman year.

Students must receive a C or better in all courses designated THEA to satisfy department degree requirements. A student's transfer courses in Theatre and Dance must also reflect a C or better to be accepted for credit. A grade of C- does not meet the requirement.

Outcomes:

Our goal is to nurture artists and scholars within aesthetic, social, critical, historical and contemporary performance and dance idioms, who appreciate cultural literacy and respect diversity, who think critically, who master discipline-specific performance and production skills, and who foster knowledge and make compelling artistic choice on stage.

The Theatre and Dance Department expects that upon graduation all students will be able to:

- Demonstrate or detail the basic production process and make an informed assessment of quality in all areas of theatre and dance,
- Honor and represent historical, contemporary, and cultural diversity in academic and performance settings,
- Articulate the intersection of their personal, aesthetic, and social/political ideas in relation to a particular play, performance work or production,

- Develop collaborative skills, communicate effectively and function in a variety of contexts with self-knowledge, resilence, and resourcefulness, both in performance and in creation,
- Understand the demands and expectations of the profession,
- Synthesize and utilize knowledge from courses in the breadth of the discipline,
- Recognize and be familiar with postgraduate training opportunities in professional theatre, dance and academia.

Scholarships

A number of scholarships are available to interested majors in theatre and dance. Please visit www.uwyo.edu/thd/scholarships/index.html for more information.

Departmental Activities/ Organizations

The department sponsors one of the largest all-student activities on campus. Nearly 150 students take part in its productions each season. All students are eligible to participate in its productions through auditions.

Productions are mounted in the Buchanan Center for the Performing Arts which includes a flexible proscenium theatre, thrust theatre and experimental-studio theatre complete with scenic and costume support facilities.

Auditions are publicly announced for each production. Qualified students may receive credit in performance and production areas (THEA 2050).

Graduate Study

At present, no program for graduate degrees in theatre and dance is offered.

Major

Theatre and Dance, Acting Performance Concentration, B.F.A.

The BFA in Acting Performance is designed for those students pursuing pre-professional training in theatre and or / for those preparing to enter performance focused graduate programs.

This degree requires 70-71 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3

- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Acting Concentration: *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2444 - Stage Management Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3750 - Acting for the Camera Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 4820 - Directing I Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3
- Foreign Language Credits: 8
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Three Hours From the Following:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Theatre and Dance, B.A.

The Bachelor of Arts in Theatre and Dance is designed to provide training for professional careers in theatre, dance, and many other performing arts.

Tracks:

- Theatre and Dance, Theatre Track, B.A.
- Theatre and Dance, Dance Track, B.A.

Theatre and Dance, Dance Performance Concentration, B.F.A.

The BFA in Dance Performance provides extensive, holistic, and well-rounded training for physical, creative, and intellectual development. Students will establish a strong foundation in dance technique, creative and teaching practices, kinesiology, history, and more. This degree track supports careers in all fields of dance, including but not limited to performance, choreography, and education. Majors are supported by dance faculty and artists who are current professionals in the dance field. The degree culminates in a student-driven final project.

Admission to the BFA in Dance Performance program is by application after 2 semesters of enrollment.

This degree requires 71-74 credits in the major, 44 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Dance Performance Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1405 - Movement Fundamentals & Conditioning Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 2040 - Production Crew II Credits: 0.5

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2160 - Stage Makeup Credits: 2
  OR
- THEA 2230 - Stage Lighting I Credits: 3
  OR
- THEA 3820 - Costume Design I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2420 - Intermediate Ballet II Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 2450 - Intermediate Tap I Credits: 1
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3021 - Foundations of Dance Pedagogy Credits: 1
- THEA 3100 - Kinesiology for Dance Credits: 3
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- THEA 3490 - Advanced Jazz I Credits: 1
- THEA 4001 - Historical Dance Credits: 2
- *Plus 8 credits total in any combination of THEA 4010 and THEA 4030*

- THEA 4010 - Advanced Ballet Credits: 1-3

- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4200 - Dance History II Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2
- THEA 4260 - Intermediate Dance Composition Credits: 2-3
- THEA 4700 - Professional Seminar in Dance Credits: 1
- THEA 4880 - Advanced Theatre Practice Credits: 1
- THEA 4880 - Advanced Theatre Practice Credits: 1-2

- THEA 4950 - Senior Thesis Credits: 3
  OR
- THEA 4960 - Senior Project Credits: 1-3

- THEA 4975 - Theatre/Dance Internship Credits: 1-12

- LIFE 1000 Credits: 4
  OR
- LIFE 1010 - General Biology Credits: 4
  OR
- ANTH 1100 - Introduction to Biological Anthropology Credits: 4

- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1

- Foreign Language Credits: 8
- First Aid/CPR Credits: 0
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Theatre and Dance, Dance Science Concentration, B.F.A.

The BFA in Dance Science is a professionally oriented degree for students interested in a career in research, science, or movement studies. The degree pairs dance training and theory with courses in Departments of Kinesiology and Health Promotion, Psychology, Nutrition, and more! Majors are supported by current dance faculty and a wide network of BFA in Dance Science alumni who are working in diverse science fields. The degree culminates in a student-driven final research project.

Admission to the BFA in Dance Science program is by application after 2 semesters of enrollment.

This degree requires 78 credits in the major, 44 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Dance Science Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1405 - Movement Fundamentals & Conditioning Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2420 - Intermediate Ballet II Credits: 1.5

- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3021 - Foundations of Dance Pedagogy Credits: 1
- THEA 3100 - Kinesiology for Dance Credits: 3
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- *Plus 2 credits total in any combination of THEA 4010 and THEA 4030*

- THEA 4010 - Advanced Ballet Credits: 1-3

- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4200 - Dance History II Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2
- THEA 4260 - Intermediate Dance Composition Credits: 2-3
- THEA 4880 - Advanced Theatre Practice Credits: 1-2
- THEA 4990 - Research in Theatre Credits: 1-3
- LIFE 1010 - General Biology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- PSYC 1000 - General Psychology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3

- KIN 4020 - Motor Behavior Credits: 3
  OR
- KIN 3034 - Lifespan Motor Development Credits: 3

- KIN 3037 - Sport Psychology Credits: 3
  OR
- KIN 3038 - Exercise Psychology Credits: 3
- Foreign Language Credits: 8
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Additional Upper-division Required Course Work

(minimum 6 hours from the following courses):

- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3040 - Teaching Human Anatomy Credits: 3
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- PSYC 3120 - Cognitive Psychology Credits: 3
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4070 - Motivation Credits: 3

Theatre and Dance, Design Tech Management Concentration, B.F.A.

The BFA in Design/Technical Management is a professionally oriented degree for students interested in pre-professional theatre design, production and management or graduate study. Students will gain experience in all aspects of technical theatre, including scenic, lighting, costumes, sound, projections and stage management. Coursework includes both design and production courses created to equip students with both the conceptual and practical skills necessary to succeed in technical theatre.

This degree requires 69-70 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Design Tech Management Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1050 - Beginning Drawing and Painting Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2250 - Computer Aided Design I Credits: 3
- THEA 2444 - Stage Management Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 2185 - Period Style for Theatre I Credits: 3
- THEA 2215 - Period Style for Theatre II Credits: 3
- THEA 3710 - Acting III Credits: 3

- THEA 3805 - Stage Lighting 2 Credits: 3
- THEA 3810 - Scene Design I Credits: 3
- THEA 3820 - Costume Design I Credits: 3
- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4810 - Scene Design II Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4850 - Costume Design II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3

  Foreign Language Credits: 8
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Recommended Electives:

- THEA 2145 - Costume Construction Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2320 - Scenic Painting for the Theatre Credits: 3
- THEA 2390 - Sound Design for Theatre and Dance Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Theatre and Dance, Musical Theatre Performance Concentration, B.F.A.

The BFA in Musical Theatre Performance is designed for those students pursuing pre-professional training in musical theatre and/or for those preparing to enter performance focused graduate programs.

This degree requires 60-70 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

The following are the required courses for a Bachelor of Fine Arts in Performance (Musical Theatre):

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 1360 - Fundamentals of Music for Theatre Majors Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2300 - MT Workshop: Scene Study Credits: 1
- THEA 2340 - Musical Theatre Voice Lesson Credits: 1

- THEA 2155 - Movement for Actors I Credits: 2
  OR
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 2444 - Stage Management Credits: 3
- THEA 3300 - MT Workshop: Production Credits: 1-2

- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- Foreign Language Credits: 8
- Plus two additional dance courses

Credits / Units: 2-3

A&S Global Credits: 3

A&S Diversity Credits: 3

Plus 3 Hours From the Following:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Theatre and Dance, Theatre/English Concentration, B.F.A.

The BFA in Theatre and Dance, Theatre/English concentration is designed primarily for students who seek additional professional education and certification, or for those who wish to enter graduate programs.

This degree requires 60-70 credits in the major, 39 of which are upper-division credits.

University Studies Program Requirements

The University Studies Program 2015

- FYS- First Year - Seminar Credits: 3
- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

Required Courses

These are the required courses for a B.F.A. with Theatre/English Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3810 - Scene Design I Credits: 3

- THEA 3820 - Costume Design I Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4830 - Directing II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3
- ENGL 2000 Credits 6
- ENGL 4000 Credits: 9
- ENGL 4110 Credits: 3
  OR
- ENGL 4120 Credits: 3
- Foreign Language Credits: 8
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Minor

Theatre and Dance, Acting Performance Minor

This minor provides options for students only involved with Theatre training while pursuing other majors or concentrations within the Department.

Learning Outcomes

1. **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, methods, and tradition of acting as a field.
2. **Methods/Styles**: Students will develop familiarity with a wide range of methods, styles, and approaches to acting.
3. **Production Experience**: Students will develop familiarity with the scope and process of being an actor in a rehearsal process.
4. **Communication Skills**: Students will learn proper rehearsal communication and collaboration skills.

Rationale:

To provide an opportunity for students to Minor in Acting Performance, with 6 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Theatre training while pursuing other majors or concentrations within the Department.

Required: 6 Credits

- THEA 1100 - Acting I Credits: 3
  OR
- THEA 2100 - Acting II Credits: 3
- THEA 3710 - Acting III Credits: 3

Electives: 12-15 Credits

Choose from:

- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 3740 - Acting Styles Credits: 3
- THEA 3750 - Acting for the Camera Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2

Optional: Maximum of 2 Credit Hours of Dance

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Total Credit Hours: 18-21

Theatre and Dance, Dance Minor

Required Courses

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2 **

Ballet Technique: 5-6 Credit Hours

Four (4) Consecutive Classes in Ballet Technique.* Choose From:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1420 - Beginning Ballet II Credits: 1
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 4010 - Advanced Ballet Credits: 1-3

Modern Technique: 5-6 Credit Hours

Four (4) Consecutive Classes in Modern Technique.* Choose from:

- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1440 - Beginning Modern II Credits: 1
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 4030 - Advanced Modern Dance Credits: 1-3

Jazz or a Mix of Jazz and Tap Class: 2 Credit Hours

Two (2) Consecutive Classes in Jazz or a Mix of Jazz and Tap Classes.* Choose from: 2

- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1
- THEA 2450 - Intermediate Tap I Credits: 1
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- THEA 3490 - Advanced Jazz I Credits: 1

Elective at 3000-4000 level: 2-3 Credit Hours

Suggested:

- THEA 4010 - Advanced Ballet Credits: 1-3
- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4001 - Historical Dance Credits: 2
  OR
- THEA 4200 - Dance History II Credits: 3 (COM3)

Minor Total 17.5-22.5

Theatre and Dance, Design, Technology, and Management Minor

This minor provides options for students only involved with Design, Technology, and Management while pursuing other majors or concentrations within the Department.

Learning Outcomes:

1. **Core Knowledge:** Students will demonstrate competency in the foundational vocabulary, methods, and tradition of production and design. Students will be expected to analyze, evaluate, and revise their work based on their understanding of the core competencies of the production and design.
2. **Methods/Styles:** Students will experience and develop an understanding of the production and design process by exposure to a wide range of methods, styles, and approaches. Projects will include theoretical and hands-on experiences.

3. **Production and Educational Experience:** Students will develop an understanding of the scope and process of being a technician, manager, and designer as part of the production and design process. Students will create theoretical work and have the opportunity to collaborate through production assignments on realized work as part of the Department of Theatre and Dance's production season.
4. **Communication Skills:** Students will learn and apply professional communication and collaboration skills as pertains to all aspects of the production and design process. Students will create portfolio quality examples of industry-specific documentation and design material that facilitates communication during the production and design process.

Rationale:

To provide an opportunity for students to minor in Design, Technology and Performance, with 6 credit hours required, and a menu of options in two areas for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Design, Technology, and Management while pursuing other majors or concentrations within the Department.

Required:

6.5 credits

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2145 - Costume Construction Credits: 3

Electives:

9 credits

Choose 3 design/technical management courses from this group

- THEA 1050 - Beginning Drawing and Painting Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2250 - Computer Aided Design I Credits: 3
- THEA 2444 - Stage Management Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 2390 - Sound Design for Theatre and Dance Credits: 3
- THEA 3000 - Special Topics in Theatre Credits: 3
- THEA 3810 - Scene Design I Credits: 3 *
- THEA 3820 - Costume Design I Credits: 3

Electives:

5-6 credits

Choose 2 upper division design/technical management courses from this group

- THEA 3805 - Stage Lighting 2 Credits: 3
- THEA 3830 - Video Design for Live Theatre Credits: 3
- THEA 3850 - Design and Technology Seminar Credits: 2

- THEA 3890 - Lighting CADD Credits: 3 **
- THEA 4810 - Scene Design II Credits: 3
- THEA 4850 - Costume Design II Credits: 3
  * THEA 2150, Drafting for Design is a prerequisite or consent of instructor.
  **Course taught as needed.

Total credit hours: 20.5-21.5

Recommended Electives (independent studies):

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 4880 - Advanced Theatre Practice Credits: 1-2
- THEA 4990 - Research in Theatre Credits: 1-3

Theatre and Dance, Musical Theatre Performance Minor

This minor provides options for students only involved with Musical Theatre training while pursuing other majors or concentrations within the Department.

Learning Outcomes

1. **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, methods, and tradition of musical theatre as a field. Students will learn the history and creation of the American musical and apply these traditions to contemporary practice.
2. **Methods/Styles**: Students will develop and demonstrate an understanding of how music and song are used as a storytelling language.
3. **Production Experience**: Students will develop and improve upon musical theatre performance skills, in both traditional and belt styles.
4. **Communication Skills**: Students will learn practice and decorum for a professional rehearsal environment.

Rationale:

To provide an opportunity for students to minor in Musical Theatre Performance with 10 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Musical Theatre training while pursuing other majors or concentrations within the Department.

Required:

10 Credits

- THEA 1100 - Acting I Credits: 3
  OR
- THEA 2100 - Acting II Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2300 - MT Workshop: Scene Study Credits: 1
- THEA 3300 - MT Workshop: Production Credits: 1-2

- THEA 1360 - Fundamentals of Music for Theatre Majors Credits: 3

Electives:

8-11 Credit Hours

Choose from:

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2340 - Musical Theatre Voice Lesson Credits: 1
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 3740 - Acting Styles Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2

Optional: Maximum of 2 Credit Hours of Dance

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Total credit hours: 18-21

Theatre and Dance, Theatre Dramaturgy Minor

This minor provides options for students only interested in History and Dramaturgy while pursuing other majors or concentrations within the Department.

Learning Outcomes:

1. **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, structures, processes, and history of the field of dramaturgy.
2. **Research/analysis**: Students will become well-versed in a range of research techniques and analytical lenses, as well as learning how to apply these concepts to script analysis and production critique.
3. **Production Experience**: Students will develop familiarity with the scope and process of dramaturgy as it pertains to rehearsal and production participation.
4. **Communication Skills**: Students will be able to communicate ideas clearly and effectively in writing, during meetings, and in rehearsal.

Rationale:

To provide an opportunity for students to minor in Theatre Dramaturgy, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. The Dramaturgy minor focuses on

history and interpretation and is an area of interest in our theatre concentration. This minor provides options for students only interested in History and Dramaturgy while pursuing other majors or concentrations within the Department.

Required:

12 credits

- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3

Electives:

6-9 credits

Choose from:

- THEA 1100 - Acting I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2060 - Introduction to Performance Studies Credits: 3
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2185 - Period Style for Theatre I Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4200 - Dance History II Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 4820 - Directing I Credits: 3
- THEA 4830 - Directing II Credits: 3
- THEA 4990 - Research in Theatre Credits: 1-3

Total credit hours: 18-21

Theatre and Dance, Theatre for Young Audiences Minor

To provide an opportunity for students to minor in Theatre for Young Audiences, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement.

Learning Outcomes

1. Core Knowledge: Students will demonstrate competency in the basic vocabulary, methods, and traditions of Theatre Education, Children's Theatre, and Theatre for Young Audiences as a field of study in research and practice. Students will practice an understanding of age appropriate material in educational, recreational, and theatrical settings.

2. Methods/Styles: Students will develop familiarity with a wide range of methods, styles, and approaches for children and youth theatre making. Students will gain understanding of a variety of teaching methods and practices for creative drama and theatre making.

3. Production and Educational Experience: Students will work with a variety of educational, community, and non-profit organizations where students engage in observing and creating theatre with children and youth. Student will gain experience in directing and producing creative drama and theatre for young audiences. Students will write educational materials effectively for the field of TYA such as lesson plans, study guides and other educational support materials.

4. Communication Skills: Students will articulate an advocacy position regarding the role of the arts in the lives of young people and voice a philosophy of teaching theatre/drama with children and youth. Students will develop and gain familiarity with the values and state/national standards in the creation of theatre with and for young people.

Rationale:

To provide an opportunity for students to minor in Theatre for Young Audiences, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. Currently we have a K-12 Theatre education endorsement within the College of Education. This program would remain, but the Theatre for Young Audiences minor can provide the courses in the major without the College of Education requirements. We feel this will be a popular minor for students wishing to work with youth in educational or community settings.

Required:

12 credit hours

- THEA 2005 - Creative Drama in the Classroom Credits: 3
- THEA 3600 - Teaching Theatre in Elementary or Secondary School Credits: 3
- THEA 3650 - Theatre for Young Audiences: Plays and Production Credits: 3
- THEA 4600 - Teaching Theatre Artists: Service Learning in the Community Credits: 3

Electives:

6-9 credit hours

Choose from:

- THEA 1100 - Acting I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2220 - Stagecraft Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4820 - Directing I Credits: 3

Total credit hours: 18-21

Theatre and Dance, Theatre Minor

Required Courses

*THEA 2150 is a prerequisite for THEA 3810

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1100 - Acting I Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2220 - Stagecraft Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
  OR
- THEA 3810 - Scene Design I Credits: 3 *
  OR
- THEA 3820 - Costume Design I Credits: 3
- Plus 3 hours of electives in Theatre and Dance (must be 4000 level or above)

College of Business

Dental Hygiene

Health Sciences Advising Office

Craig Vaske, Manager

Phone: (307) 766-3878

Email: hsadvise@uwyo.edu

Web site: http://www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html

The University of Wyoming and Sheridan College offer a cooperative program of dental hygiene education which, when completed, results in two degrees. An Associate of Applied Science degree in dental hygiene is awarded by Sheridan College following completion of the prerequisites and dental hygiene prescribed study. An optional Bachelor of Science in Dental Hygiene (BSDH) degree is awarded by the University of Wyoming following completion of the Associate of Applied Science in dental hygiene, the University Studies Program, and other requirements of the University of Wyoming, for a total of 120 credit hours including 42 upper level hours, 30 of which must be from the University of Wyoming. See www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html.

The American Dental Association has awarded full accreditation to the Associate of Applied Science degree in dental hygiene at Sheridan College. Graduates are eligible to take the National Board of Dental Hygiene exam, as well as regional and state exams for licensure, as registered dental hygienists.

Applicants should visit www.sheridan.edu/academics/programs-a-z/dental-hygiene for specific prerequisites and application materials. Applications are due to Sheridan College prior to February 15 of the year they wish to enter the program. Class sizes are limited. Admission is contingent upon successful completion of a background check.

In order to be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed on Dental Hygiene, B.S.D.H. Courses in anatomy, physiology, and microbiology must be current within five years at the time of application to the Dental Hygiene professional program. Students must also complete a minimum of 20 hours of dental hygiene observation prior to application. Completion of the prerequisite courses and observation does not guarantee admission to the professional program. If admitted, students complete their coursework in Sheridan, Wyoming.

Prospective applicants can take prerequisite courses at any accredited higher education institution. To view a list of prerequisites, see the degree program page in this catalog. Students who are completing prerequisite courses at the University of Wyoming are advised by the Health Sciences Advising Office (hsadvise@uwyo.edu). These students apply to UW as "Pre-Dental Hygiene" students.

NOTE: This major is not appropriate for students preparing to apply to dental school.

Learning Outcomes

The primary objective of the program is to assure that graduates have knowledge and abilities necessary to successfully practice dental hygiene.

Department of Accounting and Finance

252 East Business Building,
(307) 766-3807
FAX: (307) 766-3802
Web site: www.uwyo.edu/acct-fin
Department Chair: Mitchell Oler

Professor:

ALI NEJADMALAYERI, B.Sc. University of Tehran 1993; M.B.A. Texas A&M University-Kingsville 1997; Ph.D. University of Arizona 2001; Professor of Finance 2018.

Associate Professors:

NICOLE CHOI, B.A. Chungbuk National University 2002; M.B.A. Washington State University 2004; Ph.D. 2009; Associate Professor of Finance 2015.

MITCHELL OLER, B. of Commerce, University of Alberta 1997; M.S. Brigham Young University 1998; Ph.D. University of Washington 2006. Associate Professor of Accounting 2019, 2015.

KENNETH ZHENG, B.A. Southwestern University of Finance and Economics, China; M.S. University of Texas at Dallas 2007; Ph.D. University of Texas at Dallas, 2011; Associate Professor of Accounting 2021, 2015.

Assistant Professors:

TA-TUNG (STEPHANIE) CHENG, B.S. National Chengchi University 2010; M.S. Michigan State University 2013; Ph.D. Georgia State University 2020; Assistant Professor of Accounting 2020.

MACKENZIE FESTA, B.S. West Virginia University 2010; M.P.A. 2013; Ph.D. 2017; Assistant Professor of Accounting 2017.

TREVOR SORENSEN, B.S. Brigham Young University 2010; M.S. Brigham Young University 2010; Ph.D. 2016; Assistant Professor of Accounting 2022.

PATRICK WITZ, B.B.A. University of Massachusetts at Amherst 2012; Ph.D. Cornell University 2020; Assistant Professor of Accounting 2020.

Academic Professionals:

JAMES GUNDERSON, B.A. University of Nebraska 1977; Ph.D. University of Minnesota 2004; Assistant Lecturer of Finance 2014.

JENNIFER A. KREISER, B.S. University of Alabama 2001; M.S. 2002; Senior Lecturer of Accounting 2019.

STEVEN LUPIEN, B.S. Sacred Heart University; M.A. Finance Fairfield University; Lecturer and Director of the Center for Blockchain and Digital Innovation; 2019.

ANDREW MCKAMEY, B.S. Colorado State University; M.S. Colorado State University; Assistant Lecturer of Accounting 2020.

PHILIP W. TREICK, B.S. University of South Florida 1987; Assistant Lecturer of Finance 2016.

Emeriti:

Penne L. Ainsworth
Richard G. Elmendorf
George R. McGrail
Suzanne S. Roe
Frederic P. Sterbenz
Kenton B. Walker
Stuart K. Webster

Accounting Major

The basic objectives of the accounting program are twofold: to provide students who do not intend to major in accounting with the basis for understanding the role accounting plays in business today and to provide those students who desire to major in accounting with the educational background necessary for lifelong learning and a rewarding career in the accounting profession. The curriculum offered by the department attempts to blend the conceptual with the practical. Exposure to the underlying conceptual framework of accounting provides a basis for dealing with emerging accounting and tax issues, while examination of technical pronouncements enables students to gain insight into practical issues encountered in an accounting environment.

Accounting majors may enter the professional world of accounting from a variety of directions. Choices available in the form of elective courses enable students to chart a course that leads them toward public accounting, private accounting, governmental or not-for-profit accounting, as well as other specialties that rely on a strong accounting

background. Those students seeking professional certification, such as the CPA, CMA or CIA, are able to satisfy requirements to sit for these professional examinations by completing the undergraduate accounting degree.

All accounting majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All accounting courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the College of Business Peter M. and Paula Green Johnson Student Success Center in the College of Business Building.

Please Note:

Students who anticipate taking the CPA examination should be aware of the Wyoming statute governing eligibility to sit for the exam. Please see the state board's web site for information: cpaboard.state.wy.us. The current combined curricula (B.S. and M.S.) enable students to satisfy the educational requirements for a CPA licence in Wyoming and other jurisdictions.

Graduate Study

Accounting is an integral part of the College of Business degree programs. The department offers courses in support of college graduate degree programs, as well as a master of science in accounting (MS in Accounting) degree. The MS in Accounting degree was developed in response to emerging needs of the accounting profession. Those students who wish to become professional accountants, whether that be in a corporate setting, a not-for-profit setting, or public accounting, will find the MS in Accounting enables them to develop both the personal and professional skills needed to enjoy a productive career.

The MS in Accounting program, in addition to an undergraduate degree in accounting from the University of Wyoming, will satisfy the education requirements for the CPA license in Wyoming. The curriculum focuses on the two main areas of development: 1) advanced accounting and business education, and 2) professional skills development-including written, oral, interpersonal communciation, computer applications, critical thinking and adaptability.

The MS in Accounting degree is designed for students who have completed an undergraduate degree in accounting in the United States. However, it is possible to be admitted to the program once deficiency courses are successfully completed. Those holding a bachelor's degree from within the U.S., but not in accounting, and international applicants can still apply for admission once the deficiency courses are successfully completed. We do not provisionally or conditionally admit students to our program.

Program Specific Admission Requirements

Admission to the Master of Science in Accounting program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.

- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U. S. Department of Education site.

- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.

- GRE or GMAT optional. A strong GRE or GMAT score may be considered to offset deficiencies in other areas of your application (such as a GPA below 3.0, limited work experience, etc.).

• Official transcripts of all undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Office of Admissions at 1000 E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the department Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.

• Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.

a• Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

NOTE: These are the minimum requirements and do not guarantee admisson or funding. The University of Wyoming MS in Accounting program does not provisionally or conditionally admit students.

*Please refer to the AICPA Site (www.aicpa.org) to check on the requirements you will need to fulfill in your state if you plan to sit for the CPA Exam.

Additional requirements for International Applicants:

• Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 540 on the paper-based test (TOEFL PBT) or a score of 76 on the internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 6.5. Waivers for the English Language proficiency requirement may be granted according to the UW policy found on the admnissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html.

Additionally, to be admitted to the Master of Science in Accounting program, a student demonstrate competency in the following subject matters/courses:

• ACCT 3230 Intermediate I & ACCT 3430 Intermediate II (External Financial Reporting)

• ACCT 3240 Cost I (Advanced Managerial Accounting)

• ACCT 3070 Tax I (Tax Accounting, must cover US income taxation for individuals)

• ACCT 4060 Audit I (must cover US Generally Accepted Auditing Standards and/or International Standards on Auditing)

*These courses may be completed through any regionally accredited university or college. A minimum grade of B (a 3.0 on a 4.0 scale) is considered evidence of proficiency.

*Evidence of proficiency in these areas can also be demonstrated by relevant professional experience on a case-by-case basis. Please contact the program office for additional information.

Each candidate who applies to the University of Wyoming Master of Science in Accounting program is evaluated individually by our faculty and program directors. We consider each part of the application in a holistic assessment, including the candidate's reasons for pursuing the degree, interview responses, prior academic performance, work experience, and letters of recommendation.

Students are admitted on a rolling basis with applications evaluated as soon as they are completed. It typically takes no more than two weeks to receive an admission decision.

Application Deadlines

Fall Admission

- Block 1 Final Deadline: July 1
- Block 2 Final Deadline: September 15

Spring Admission

- Block 1 Final Deadline: December 1
- Block 2 Final Deadline: September 15

Summer Admission

- Final Deadline: April 1

International applicants: Please be advised that there are additional university requirements that may take additional processing time - you are encouraged to apply prior to the application deadline if possible to ensure that if admitted, all required documentation can be provided prior to the term of entry.

Program Specific Degree Requirements

Master of Science in Accounting

The objectives of the master of science in accounting degree program are:

- To provide students with an advanced understanding of the field and sub-topics within accounting,
- To provide students with professional skills that will enable them to enjoy productive and rewarding careers in accounting and other accounting-related areas.

The program consists of a minimum of 30 semester hours of graduate coursework. Students must complete coursework in accounting and elective business and/or non-business areas. Eighty percent of the student's total coursework must consist of 5000-level courses; the remaining 20 percent may be 4000-level non-accounting courses (approximately six hours). Non-accounting courses should be selected in consultation with the student's graduate adviser. Non-accounting courses at the 4000-level may be taken during the senior year of undergraduate study and applied to the master's program, but they must be reserved for graduate credit and approved by the graduate program director, prior to the first day of such classes.

Students must take these 4 core accounting courses (minimum 12 credit hours):

ACCT 5030. Advanced Financial Accounting

ACCT 5040. Seminar in Managerial Accounting

ACCT 5060. Auditing II

ACCT 5070. Tax II

Any accounting course at the 5000+ level that has not been used to meet any other primary major requirement.

A maximum of six hours may come from 4000- level courses offered in the College of Business or in other colleges at the University of Wyoming.

NOTE: ACCT 4010, 4020, 4050, 4060, 4100, 4900, and 5000 are not applicable for M.S. accounting students' programs of study.

The student must complete the required coursework (both graduate and prerequisite) with a minimum GPA of 3.000 (on a 4.000 scale).

Any student falling below a cumulative GPA of 3.000 is automatically placed on probation for the following semester and must raise their GPA to 3.000 to avoid dismissal.

Students must maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Finance Major

Modern business is characterized by its emphasis upon finance. The application of sound financial management principles often will be the difference between success and failure in business.

Courses prescribed for those who wish to major in finance are designed to provide a background for financial management of business concerns and, if students desire, to specialize in bank management, corporation finances and investment management. Since financial policies of business enterprises are subject to economic principles which make all businesses financially interdependent and sensitive to disturbances in the economic structure, students in this field should study the economic, as well as the technical, administrative aspects of finance and accounting.

All finance majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All finance courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the Academic Advising unit of the GJSSC of the College of Business Building.

Department of Aerospace Studies

Department of Aerospace Studies
110 Wyoming Hall, (307) 766-2338
FAX: (307) 766-2357
Web site: www.uwyo.edu/airrotc

Professor:

ANTHONY KUSEK, Lt. Colonel, U.S. Air Force; B.S. Parks College 1995; M.A. Webster University 2007; Professor of Aerospace Studies 2019.

RICHARD LANDSVERK, Major, U.S. Air Force; B.S. Thomas Edison State College 2008; M.A. Bellevue University 2012; Professor of Aerospace Studies 2019.

SAMUEL R. SHEARER, Lt. Colonel, U.S. Air Force; B.S. University of Utah 1996; M.S. Troy State University 2003; M.A. Naval Postgraduate School 2004; Ph.D. 2013; Professor of Aerospace Studies 2016.

Air Force Reserve Officers' Training Corps (AFROTC) provides University of Wyoming students a path toward earning a commission as an officer in the United States Air Force. The curruculum provides college students a solid understanding of the leadership and military fundamentals an Air Force officer requires. AFROTC cadets supplement their normal university coursework with studies in Air Force fundamentals, history, leadership, and national security affairs. In addition, cadets have the opportunity to learn about various careers in the Air Force through their studies, guest lectures, base visits, and other military training opportunities. While enrolled in AFROTC, the Air Force provides uniforms, AFROTC textbooks, and the necessary Air Force equipment. Upon successful completion of the program and earning their bachelor's degree, cadets are commissioned as 2nd lieutenants in the U.S. Air Force.

Application and enrollment in the program is voluntary. Students should simply register for the appropriate Air Force (AIR) courses. In addition, prospective cadets will need to complete an application package upon arrival at the detachment in order to ensure minimum qualifications for military service. Contact the AFROTC Department for additional details or with any questions regarding registration. All university students, both male and female, are eligible to apply for admission in the program.

Four-Year Program

The four-year program is divided into two phases. The first two years comprise the General Military Course (GMC) consisting of one class period (1 hour) per week in the classroom and one class period (2 hours) per week in leadership laboratory. The GMC is a prerequisite for continuation in the Professional Officer Course (POC), the last two years in the program. Other prerequisites include passing the Air Force Officer Qualifying Test (AFOQT), maintaining at least a minimum grade point average of 2.0 (GMC) and 2.5 (POC), having the physical qualifications for an Air Force commission, and participating in a four-week field training session. The advanced course consists of one class period (3 hours) per week in the classroom and one class period (2 hours) per week in leadership laboratory.

Three-Year Program

Students may enroll in ROTC on a three or three and one-half year program where the GMC component is shorter. To complete the GMC requirements, the student must simultaneously enroll in AIR 1000 and AIR 2000 courses to complete all four academic terms of the GMC program. After successfully completing the GMC program and Field Training, students may enter the two-year POC program. This program is especially suitable for sophomores and junior college transfers. Students that participated in high school Junior ROTC, or have prior-enlisted service, can apply documented participation toward a portion of the GMC requirement.

Leadership Laboratory

The concept of leadership laboratory is to provide leadership training experiences which will improve a cadet's ability to perform as a USAF officer. Leadership laboratory is largely cadet planned and directed.

Field Training

Field training is a four-week program conducted in residence at an Air Force base during the summer.

While at field training, each cadet is provided subsistence, uniforms/equipment, and receives approximately $28.00/day plus reimbursement for travel to and from the field training base.

Financial Benefits

Freshmen and Sophomores on AFROTC scholarships receive $300 and $350, per month, respectively. Juniors enrolled in the Professional Officers Course receive $450 per month and seniors $500 per month tax-free during the school year for subsistence. Uniforms, required texts and all necessary Air Force equipment are furnished by the government. In addition, all POC and scholarship cadets are allowed to travel anywhere in the continental United States on military aircraft (on a space available basis).

Special Scholarship Program

Two-, three- and four-year scholarships are offered by AFROTC on a competitive basis. These scholarships pay for a $900 book allowance per year, tuition (amount dependent on type of scholarship awarded), fees and other required expenses except room and board. The university and the State of Wyoming offer additional room and board funding to Air Force ROTC cadets (who have or have not been awarded an Air Force ROTC scholarship) and reside in university housing. High School seniors seeking a four-year scholarship should contact their high school counselors or the Recruiting Flight Commander, AFROTC Detachment 940, Dept. 3005, 1000 E. University Avenue, Laramie, WY 82071; telephone (307)766-3710; email at airforce.rotc@ uwyo.edu, early in the fall of their senior year. Sophomore or transfer students interested in competing for a scholarship should contact the Recruiting Flight Commander before the fall semester prior to junior standing.

Military Obligation

Students enrolling in the first two years of the AFROTC Program (the General Military Course) are not obligated to military service of any kind, unless on an Air Force scholarship their sophomore year. Cadets accepting an AFROTC scholarship and those entering the Professional Officer Course become members of the inactive reserve of the United States Air Force. Upon being commissioned a Second Lieutenant in the Air Force, graduates in nonflying career fields agree to serve four years on active duty; pilot candidates agree to serve on active duty for 10 years after completion of flight training; RPA, navigator, and air battle manager candidates agree to serve on active duty for six years after completion of their respective training.

Extracurricular Activities

To familiarize students with Air Force life and social customs, the AFROTC Program offers on a voluntary basis a wide range of extracurricular activities. Civil Air Patrol gives cadets an opportunity to experience flying first hand with a trained instructor pilot. The Arnold Air Society, a national professional honorary society, is a service organization active on campus. The color guard supports various university and local activities. Visits to Air Force bases across the nation provide insight into the function of Air Force operational units. Throughout the year, AFROTC teams participate in the university intramural sports program, while cadet-sponsored social events build the spirit of comradeship inherent in military life.

Department of Agricultural and Applied Economics

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Web site: www.uwyo.edu/agecon
E-mail: ag-econ@uwyo.edu
Department Head: Benjamin S. Rashford

Professors:

CHRISTOPHER T. BASTIAN, B.S. University of Wyoming 1987; M.S. 1990; Ph.D. Colorado State University 2004; Professor of Agricultural Economics 2017, 2005.

ROGER COUPAL, B.S. Utah State University 1978; M.S. University of Arizona 1985; Ph.D. Washington State University 1997; Professor of Agricultural Economics 2015, 1997.

DON MCLEOD, B.S. St. John's College 1982; M.S. Oregon State University 1987; Ph.D. 1994; Professor of Agricultural Economics 2015, 1995.

L. STEVEN SMUTKO, B.S. Colorado State University 1978; M.C.R.P. North Dakota State University 1982; Ph.D. Auburn 1995; Spicer Chair of Collaborative Practice, Professor of Agricultural Economics 2009.

Associate Professors:

KRISTIANA M. HANSEN, B.A. Reed College 1996; M.S. University of California, Davis 2003; Ph.D. 2008; Associate Professor of Agricultural Economics 2016, 2009.

VARDGES HOVHANNISYAN, B.S. Armenian State University of Economics 1999; M.S. Armenian State Agrarian University 2002; Ph.D. University of Wisconsin-Madison 2012; Associate Professor of Agricultural Economics 2021, 2015.

CHIAN A. JONES-RITTEN, B.S. Northern Arizona University 2003; M.A. Colorado State University 2007; Ph.D. 2011; Associate Professor of Agricultural Economics 2013.

BENJAMIN S. RASHFORD, B.S. University of Wyoming 1999; M.S. 2001; Ph.D. Oregon State University 2006; Associate Professor of Agricultural Economics 2012, 2006.

Assistant Professor:

ANDERS VAN SANDT, B.A. Linfield University 2012; Ph.D. Colorado State University 2018; Assistant Professor of Agricultural Economics 2020.

Academic Professionals:

BRIDGER M. FEUZ, B.S. University of Wyoming 1994; M.S. 1996; Senior Extension Educator 2012, 2004.

THOMAS FOULKE, B.A. University of Montana 1985; M.S. University of Wyoming 1992; Senior Research Scientist 2010, 1998.

LETICIA HENDERSON, B.S. New Mexico State University 2010; M.S. 2012; Assistant Lecturer 2019.

JOHN HEWLETT, B.S. Montana State University 1985; M.S. Oregon State University 1987; Senior Exension Educator 1987.

BRIAN LEE, B.S. University of Wyoming 2010; M.S. 2012; Research Scientist 2012.

AMY NAGLER, B.A. University of Wyoming 1996; M.S. 2002; Assistant Research Scientist 2016.

HANNAH WILSON, B.S. Southern Arkansas University 2021; M.S. University of Wyoming 2023.

ROBERT ZIEGLER, B.S. University of Wyoming 2018; M.S. University of Nebraska-Licoln 2020.

Temporary Lecturer:

Professors Emeritus:

Nicole Ballenger, Edward Bradley, Larry J. Held, James J. Jacobs, Dale Menkhaus, Carl Olson, Alan C. Schroeder, David T. Taylor, Glen D. Whipple

The Department of Agricultural and Applied Economics offers three concentrations within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three concentrations focus on the development of critical thinking, applied knowledge, and communication skills for students interested in

1. agricultural operations,

2. small rural businesses,

3. community economics,

4. financial institutions,

5. agricultural and natural resources development, and

6. other pursuits where applied economic tools will be useful.

A brief description of minimum course requirements for each of the three concentrations in agricultural business is given below. In addition, professional advisers will work with students to tailor a curriculum to individual interests and goals.

Agribusiness Management Concentration

This curriculum is for students preparing for careers in the agribusiness field. Applied agricultural economics courses are supplemented with marketing, management, finance and other courses from the College of Business and production-oriented courses from other departments in the College of Agriculture, Life Sciences, and Natural Resources.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13373

Farm and Ranch Management Concentration

This curriculum is for students intending to become operators or professional managers of farms, ranches, or feedlots. It is also well suited for students interested in the field of agricultural finance, or a minor in biological fields, such as agroecology or range management. In this concentration, courses in farm and ranch management, finance, and marketing are supplemented by courses in plant sciences, range management, veterinary sciences, and animal science.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13374

Livestock Business Management Concentration

This curriculum is for students intending to work in any sector of the livestock and meat industry, ranging from input suppliers, to ranches, feedlots, meat packing companies, marketing and sales agents, futures/commodities exchange

groups, policy makers, and international trade organizations. In this option, courses in farm and ranch management, agricultural finance, and marketing are supplemented with courses in animal science, biology, range management, food science, and data analysis. Students may pursue a minor in Animal Science as part of this option. Students will gain a broad understanding of both the business and science of the livestock industry.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13773

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Minor Programs

The department also offers five minor programs. These five minors are to give students majoring in other undergraduate curricula in the university a concentration of work in any of the specialized undergraduate curricula offered by the department or in general agricultural economics. Each minor requires 27 hours in prescribed course work including 6 hours in supporting agriculture. Students need to plan their course work to meet course prerequisites.

Agricultural Business Minor. AGEC 1010, 1020, 4050 or MKT 3210, and 4060; ACCT 2010; 6 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

Farm and Ranch Management Minor. AGEC 1010, 1020, 2020 and 4640; 9 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

International Agriculture Minor. AGEC 1010, 1020, 3860 and 4880; 6 additional hours in upper-level agricultural economics courses; 3 hours in foreign culture or language; 6 hours in supporting agriculture courses.

Natural Resource Economics Minor. AGEC 1020, 3750, 4700, 4720; choose 9 additional hours from: AGEC 4450, 4600, 4710, ECON 2400, 4400, 4410, 4520 (note: College of Business prerequisites), ENR 4500.

General Agricultural Economics Minor. AGEC 1010, 1020 and 15 additional hours in agricultural economics courses with 12 hours at the upper-level; 6 hours in supporting agriculture courses.

Graduate Study

The Department of Agricultural and Applied Economics offers graduate work leading to the Master of Science degree. Students may choose among major options in the areas of agricultural and applied economics and agricultural business. The Plan A agricultural economics major emphasizes research with any of the following focus areas:

production economics and management, marketing and market analysis, resource and environmental economics, international agriculture, and economic and rural development.

The Plan B agricultural business option offers advanced skills to students who desire professional careers in the business sector. Students in the agricultural business option may concentrate their coursework and writing in management, marketing, or finance. Dual majors in water resources, and environment and natural resources are also offered.

Finally, the Department offers a graduate minor in applied economics. This program is for currently enrolled graduate students in other disciplines seeking a foundation in economics as well as their major discipline.

Program Specific Admission Requirements

Undergraduate major in agricultural economics or economics is not required.

Students may be required to complete program prerequisite courses, without graduate credit, that were not completed in their undergraduate education.

Specifically, students who have not completed at least one course in calculus, statistics, and intermediate microeconomic theory may be required to complete these courses without graduate credit during their first semester in residence.

Program Specific Degree Requirements

Master of Science in Agricultural Economics

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

AGEC 5310 Theory of Producer Behavior...3

AGEC 5630 Advanced Natural Resource Economics 3

AGEC 5710 Advanced Agricultural Market Theory 3

AGEC 5740 Theory of Consumer Behavior 3

Quantitative Methods

AGEC 5230 Intermediate Econometric Theory 3

AGEC 5320 Quantitative Methods in Agricultural Economics.....3

Research

AGEC 5650 Communicating Research.....3

AGEC 5880 Advanced Seminar.....1

Plan A (thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives. No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (non-thesis):

Minimum of 32 hours of coursework; Non-thesis business analysis paper accepted by the student's graduate committee. Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

AGEC 5310

AGEC 5740

AGEC 5880

AGEC 5630 or 5710

AGEC 5320 or 5230

In addition, students are required to complete 3 credit hours from each of the following three areas:

Management:

AGEC 4060, 4640 or 5460; or MGT 4410, 4420, 4440, 4470, or 4520

Marketing:

AGEC 4050, 4830, 4840, 4880, or 5710; or MKT 4240, 4430, 4520, or 4540

Finance:

AGEC 4500; or FIN 4510, 4520, 4610, 4810; or ECON 4740

Remaining credit hours will be filled with electives. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic. Presentation of the business analysis paper at a formal public seminar. An internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Master of Science in Agricultural Economics/ Water Resources; Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 10 credit hours in water resources approved courses. Please refer to Water Resources Degree program in this Catalog for updated degree requirements. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the water resources area. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Master of Science in Agricultural Economics/Environment and Natural Resources (ENR); Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Graduate Minor in Applied Economics:

Graduate standing. AGEC 4640, AGEC 5310 or 5740, AGEC 5320 or 5230, and 6 additional credits of approved courses. Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Department of Animal Science

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Web site: uwyo.edu/anisci
Department Head: Bledar Bisha

Professors:

BRENDA M. ALEXANDER, B.S. University of Wyoming 1986; M.S. 1988; Ph.D. 1999; Professor of Animal Science 2019, 2006.

SCOTT L. LAKE, B.S. University of Nevada 1998; M.S. 2001; Ph.D. University of Wyoming 2005; Professor of Animal Science 2021, 2014, 2008. Extension Livestock Specialist. Director of Laramie R&E Center.

JAMES K. PRU, B.S. 1991 and M.S. 1993 Zoology and Physiology, University of Wyoming; Ph.D. Molecular Reproductive Biology University of Wyoming 2000; Professor and Rochelle Chair of Animal Science 2021.

BARBARA RASCO, B.S.E. University of Pennsylvania 1979; Ph.D. Food Science, University of Massachusets 1983; J.D. Seattle University 1995; Dean, College of Agriculture, Life Sciences and Natural Resources, 2019-2023.

Associate Professors:

BLEDAR BISHA, D.V.M. Agricultural University of Tirana-Albania 1999; M.S. Iowa State University 2004; Ph.D. 2009; Associate Professor of Animal Science 2019, 2013.

PAUL A. LUDDEN, B.S. University of Nebraska-Lincoln 1991; M.S. Purdue University 1994; Ph.D. University of Missouri-Columbia 1997; Associate Professor of Animal Science 2004, 1998.

STEVEN I. PAISLEY, B.S. University of Wyoming 1993; M.S. 1995; Ph.D. Oklahoma State University 1998; Extension Beef Cattle Specialist; Associate Professor of Animal Science 2007, 2001. Director of SAREC R&E Center.

WHIT STEWART, B.S. Brigham Young University-Idaho 2008; M.S. Oregon State University 2010; Ph.D. New Mexico State University 2015; Assistant Professor of Animal Science 2017.

Assistant Professors:

JEREMY BLOCK, B.S. University of Missouri 1998; M.S. University of Florida 2003; Ph.D. 2007; Assistant Professor of Animal Science 2020.

HANNAH C. CUNNINGHAM-HOLLINGER, B.A. St. Olaf College 2012; M.S. University of Wyoming 2014; Ph.D. 2018; Assistant Professor of Animal Science 2019.

DANA K. DITTOE, B.S. Mississippi State University 2016; M.S. 2017; Ph.D. University of Arkansas 2020. Assistant Professor 2023

CODY GIFFORD, B.S. 2013, M.S. 2016; Ph.D. Colorado State University 2019; Assistant Professor of Animal Science 2019.

PAULO M.T. LIMA, B. S. 2011 Veterinary Medicine, University of Brasília (Brazil); M. S. 2013 Animal Sciences, University of Brasília (Brazil); Ph.D. 2016 Sciences, Center for Nuclear Energy in Agriculture - University of São Paulo (Brazil); Assistant Professor Animal Science/Precision Livestock Specialist 2023, University of Wyoming.

BRANDON L. ROBERTS, B.S. 2009 and Ph.D. 2015 Neuroscience, Washington State University; Assistant Professor in Dept. of Zoology & Physiology and Dept. of Animal Science 2023.

SHELBY ROSASCO, B.S. California State University 2012; M.S. New Mexico State University 2016; Ph.D. New Mexico State University 2020; Assistant Professor of Animal Science 2020.

Academic Professional Lecturers:

LANDON K. ELDRIDGE, B.S. 2019 and M.S. 2023 Animal Science, Texas A&M University.

JENNIFER A. INGWERSON-NIEMANN, B.S. University of Nebraska-Lincoln 2005; M.S. Iowa State University 2014; Academic Professional Lecturer in Animal Science 2014.

McKENSIE K. PHILLIPS, B.S. University of Wyoming 2015; M.S. Texas A&M University 2017; Assistant Lecturer in Animal Science 2018.

Adjunct Professors:

Kristi Cammack, Jeff Chandler, Thomas Hansen, John Johnston, Tom McDonald, Peter Nathanielsz, Mark Nijland, Heywood Sawyer, Donal Skinner, D. Paul Thomas, Meijun Zhu

Professors Emeriti:

Ray Field, Bret Hess, Frank Hinds, Doug Hixon, Steven W. Horn, Conrad Kercher, Warrie Means, Richard J. McCormick, Gary Moss, William Murdoch, Johannes Nel, Bibek Ray, Dan Rule

Introduction

The Department of Animal Science offers a variety of courses in animal and food science. The department uses modern laboratories and excellent animal facilities including a livestock teaching arena and a meat processing facility.

The Department of Animal Science and the Department of Veterinary Science have a combined curriculum, under Animal and Veterinary Science (ANVS). The curriculum has options in production, range livestock, business, communication, animal biology, preveterinary medicine, meat science and food technology, and equine science. The curriculum leads to a wide variety of career opportunities for animal and veterinary science graduates.

B.S. in Animal and Veterinary Science

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the bachelor of science degree in animal and veterinary science. Courses in animal science, food science, and pathobiology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various concentrations provide maximum flexibility to meet the changing needs of students and their employers.

Our concentrations allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal Biosciences Concentration

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

Equine Science Concentration

This concentration is designed to provide a strong foundation in animal and equine science and its application to equine production and management for those interested in a career in the horse industry.

Food Animal industries Concentration

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

Pre-Veterinary Medicine Concentration

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

Undergraduate Minors

The Departments of Animal Science and Veterinary Sciences offers two minors:

- Animal and Veterinary Science Minor
- Equine Science Minor

Graduate Study

Masters Program

The Departments of Animal Science and Veterinary Science offer programs leading to the M.S. (Plan A and Plan B) and Ph.D. degrees in animal and veterinary science. A M.S. degree in food science and human nutrition is offered in cooperation with the Department of Family and Consumer Sciences. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. Biomedical Science Program.

Food Science

Food science is the application of basic sciences to the processing, quality control, storage, distribution and consumer use of food products. The microbiological, chemical and physical characteristics of foods as related to food processing and product quality are studied. Major emphasis is placed in the area of animal food products.

Doctoral Program

The program requires 72 hours. Students must follow minimum graduate requirements.

Department of Anthropology

106 George C. Frison Building,
(307) 766-5136
FAX: (307) 766-2473
Web site: www.uwyo.edu/anthropology
Department Chair: Melissa S. Murphy

Professors:

JAMES AHERN, B.A. Beloit College 1991; M.A. Northern Illinois University 1993; Ph.D. University of Michigan 1998; Professor of Anthropology 2014, 2000.

MARCEL KORNFELD, B.A. University of New Mexico 1974; M.A. University of Wyoming 1982; Ph.D. University of Massachusetts-Amherst 1994; Professor of Anthropology 2008, 1996.

MELISSA S. MURPHY, B.A. Haverford College 1994; Ph.D. University of Pennsylvania 2004; Professor of Anthropology 2021, 2008.

TODD SUROVELL, B.S. University of Wisconsin-Madison 1995; M.A. University of Arizona 1998; Ph.D. 2003; Professor of Anthropology 2015, 2003.

Associate Professors:

PAMELA INNES, B.A. Bryn Mawr College 1986; M.A. University of Oklahoma 1992; Ph.D. 1997; Associate Professor of Anthropology 2007, 2001.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Associate Professor of History and Anthropology 2021, 2014.

JASON TOOHEY, B.A. University of California Santa Barbara 1995; M.A. California State University Northridge 2000; Ph.D. University of California Santa Barbara 2009; Associate Professor of Anthropology 2017, 2011.

Assistant Professors:

ALLISON CAINE, B.A. Bates College, 2007; M.Sc. University of Edinburgh 2010; Ph.D. University of Michigan 2019; Assistant Professor of Anthropology 2022.

BRIANA DOERING, B.A. Barnard College, Columbia University, 2012; M.A. University of Michigan 2016; Ph.D. 2020, Assistant Professor of Anthropology 2020.

SEAN FIELD, B.A. Northern Colorado University 2015; M.A. University of Nebraska 2017; M.A. Notre Dame University 2019; Ph.D. Notre Dame University 2023; Assistant Professor School of Computing and Anthropology 2023.

RANDY HAAS, B.A. Northern Arizona 2001; M.A. Northern Arizona University 2003; Ph.D. University of Arizona 2014; Assistant Professor of Anthropology 2023.

LAUREN HAYES, B.A. Wake Forest University 2006; M.A. University of Arizona 2006; Ph.D. University of Arizona 2017; Assistant Professor of Anthropology 2023.

JESSICA NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of School of Culture, Gender, and Social Justice 2019.

NIKOLAS SWEET, B.A. Virginia Tech, 2005; M.A. University of Michigan 2014; Ph.D. 2019; Assistant Professor of Anthropology 2022.

Adjunct Faculty:

Adams, Budowle, Gardner, Janković, Karavanić, Kitchel, Lynch, Mackie, Miller, Olujić, Pelton, Peterson, Raguž, Rapson, Stadbauer, Todd, Walker, Wilkinson

Lecturers:

James Johnson

Professors Emeriti:

George W. Gill, Michael E. Harkin, Robert L Kelly, Mary Lou Larson, Lin A. Poyer, Charles A. Reher, Audrey C. Shalinsky

The department of Anthropology promotes the understanding of humankind from an integrated, holistic approach which examines past, present and future trends in cultural, biological and linguistic diversity and uniformity. Though the department serves undergraduate and graduate majors who will become professional anthropologists or will pursue other related careers, it also provides information to a large number of non-majors and to the larger community regarding cross-cultural issues. Furthermore, because of its commitment to the four field approach including biological anthropology, archaeology, cultural anthropology and linguistic anthropology, the department fosters among its students an awareness of the interrelatedness of scientific concepts, methods and theories, and the humanistic foundation of scientific inquiry. The Department of Anthropology prepares its students both to understand the cultural resources of Wyoming and to participate as informed citizens in an increasingly complex global community.

Undergraduate Major

The Anthropology B.A. program has the following learning outcomes:

1. students demonstrate knowledge about the four fields of anthropology and their interrelationship,

2. students participate in a research experience and understand its process, and

3. students demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

In addition to university and college requirements listed in this Catalog, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. Specific requirements for a B.A. in anthropology are ANTH 1100, 1200, 1300, and 2000. Students must complete ANTH 3300 or ANTH 3310. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975. Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology). Courses that can be used to fulfill upper division cultural anthropology are ANTH 4023, 4300, 4310, 4320, 4325, 4330, 4340, 4350, 4380, 4020 (with instructor's consent). Courses that can be used to fulfill upper division linguistic anthropology are ANTH 4024, 4740, 4765, 4775, 4785, 4795, 4020 (with instructor's consent). Courses that can be used to fulfill upper division biological anthropology are ANTH 4022, 4210, 4215, 4220, 4230, 4255, 4260, 4020 (with instructor's consent). Courses that can be used to fulfill upper division archaeology are ANTH 3900, 4021, 4110, 4115, 4120, 4125, 4130, 4145, 4150, 4160, 4170, 4175, 4020 (with instructor's consent), or six credits of archaeological field school (ANTH 4140 or 5180). It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

At the completion of the Bachelor of Arts degree in Anthropology, students will be able to demonstrate knowledge about the four subfields of anthropology and their interrelationships; they will have participated in a research experience and understand its process; and, they will demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

Undergraduate Minors

The Anthropology undergraduate minor has the following learning outcomes:

1. students learn sufficient subfield information to complement a variety of disciplines,

2. students learn basic methods of the discipline, and

3. students learn basic theories/ types of subfield explanation.

The minor for non-anthropology majors requires two of the introductory courses: ANTH 1100, 1200, 1300, 2000, and 11- 12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level. See the anthropology web site for more details.

Teacher Education

Anthropology courses may be used to complete part of the requirements for teacher certification in social studies.

Graduate Study

The department offers programs of study leading to Master of Arts and Doctor of Philosophy degrees in Anthropology. Check Anthropology department web pages for any updates.

Program Specific Admission Requirements

Master's Program

The Anthropology M.A. program has the following learning outcomes:

1. students will be able to explain the content of the "four fields" of anthropology and their interrelationship in written and oral formats,

2. students will have experience in original research, and

3. students will develop skills which foster professionalism as related to their chosen field.

Deadline for application is February 15 for the following fall. See graduate admission requirements. Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

The Department of Anthropology requires that at least two of the recommendation letters be from academic supervisors or instructors.

Students must present evidence of a satisfactory background in anthropology, which should include coursework in all four subfields of Anthropology (socio/cultural, bio/physical, archaeology, and linguistics). Deficiencies in anthropology may require remediation. Students must have two semesters of a single foreign language or equivalent, and one semester of statistics. In those instances in which the undergraduate background of the student is deficient, the department reserves the right to prescribe course work that would correct such deficiencies.

The M.A. program is designed to be completed in two full years of graduate study. Appropriate allowance will be made for parttime students.

Students who graduate with a Master of Arts degree will be able to explain the content of the four fields of Anthropology and their interrelationship in written and oral formats; they will have an experience in original research; and, they will develop skills which foster professionalism in their chosen fields.

Doctoral Program

The Anthropology Ph.D. program has the following learning outcomes:

1. students will have professional and specialized training so they can move into careers in academic or non-academic tracks,

2. students will have a dissertation research experience that results in professional publication(s), thereby contributing to the expansion of knowledge, and

3. students will have practical experience that will promote their movement into professional careers in a reasonable amount of time.

Deadline for application is December 1 for the following fall. *See graduate admission requirements.*

Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should identify whom they would like as their faculty adviser and describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

Students with a master's degree may apply directly to the Ph.D. program.

Students with a bachelor's degree may apply to the Ph.D. program. If admitted, students are expected to complete the master's degree requirements following the Plan A or Plan B option before formal admission to the Ph.D. program. At the thesis defense or hearing for the Plan B paper, the student will receive a no pass, pass-terminate at the master's degree, or a pass-admit to the Ph.D. program.

Students admitted to the department's M.A. program are not guaranteed admission to the Ph.D. program.

For admission to the Ph.D. program with the Bachelor's degree, students must have course work in the four subfields of anthropology, two semesters of a single foreign language, and statistical competency at either the B.A. or M.A. level. If these are not satisfied, the student's faculty adviser in coordination with the student's graduate committee assigns remedial work as appropriate.

Students who graduate with a Ph.D. in Anthropology will have specialized and professional training so they can move into academic or non-academic tracks; they will have a dissertation experience that results in professional publications; and they will have professional experiences that facilitate their move into careers in a reasonable amount of time.

Program Specific Graduate Assistantships

Doctoral students generally receive two years of assistantships. First semester, first year M.A. students are generally not awarded assistantships; however, the department occasionally does make exceptions. M.A. students are eligible to apply for assistantships beginning in the second semester.

Assistantships are awarded through a departmental application process. An application form, cover letter, and resume are required. Information and deadlines may be obtained in the department office.

Failure to complete steps in the M.A. program by established deadline (e.g., advisor selection, proposal presentation, etc.) means the student is not eligible for an assistantship. Failure of the Ph.D. preliminary exam means the student is not eligible for an assistantship.

Program Specific Degree Requirements

Master's Program Plan A (thesis)

See university minimum requirements.

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of ANTH 5010, 20th Century Anthropological Theory; ANTH 5015, Archaeological Theory and Method; ANTH 5020, Biological Anthropology; and ANTH 5030, Linguistic Anthropology.

First semester (fall): Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (spring): Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Third semester (fall): Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (spring): Thesis is completed and is approved by thesis committee.

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Plan B (non-thesis)

See university minimum requirements.

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Doctoral Program

See university minimum requirements.

After completion of an M.A. program in anthropology.

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee. If not completed prior to admission, two semesters of a single foreign language must be completed.

Two additional courses in their first or second year: ANTH 5880, Professionalism in Anthropology and the two-semester sequence of ANTH 5890, Teaching Anthropology (3 hours total).

Teaching experience, including standalone courses, after completion of the first semester of Teaching and Learning (ANTH 5890), as well as teaching assistance to UW faculty members.

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Committee meeting and successful completion of a dissertation proposal.

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

Department of Atmospheric Science

6034 Engineering Building, (307) 766-3245
FAX: (307)766-2635
Web site: www.atmos.uwyo.edu
Department Head: Jeffrey French

Professors:

BART GEERTS, Licenciaat Physical Geography Katholieke University, Belgium 1984; Engineer in Irrigation Sciences 1986; Ph.D. University of Washington 1992; Professor of Atmospheric Science 2011, 1999.

Associate Professor:

JEFFREY R. FRENCH, B.S. South Dakota School of Mines 1992; M.S. 1994; Ph.D. University of Wyoming 1998; Associate Professor of Atmospheric Science 2021, 2015.

SHANE MURPHY, B.S. University of Colorado 2000; Ph.D. California Institute of Technology 2009; Associate Professor of Atmospheric Science 2019, 2011.

Assistant Professors:

DANA CAULTON, B.S. Indiana University 2010; Ph.D. Purdue University 2014; Assistant Professor of Atmospheric Science 2018.

DANIEL T. MCCOY, B.S. New Mexico Institute of Mining and Technology, 2010; PhD. University of Washington 2016. Assistant Professor of Atmospheric Science 2020.

STEFAN RAHIMI, B.S. University of Oklahoma 2010; M.S. 2014; PhD. University of Wyoming 2019; Assistant Professor of Atmospheric Science 2023.

MASANORI SAITO, B.S. Tohoku University, Japan 2012; M.S. 2014; Ph.D. 2017; Assistant Professor of Atmospheric Science 2020.

Adjunct Professors:

Professors Emeritus:

Terry L. Deshler, Robert D. Kelly, John D. Marwitz, Derek C. Montague, Thomas R. Parish, Alfred R. Rodi, Jefferson R. Snider, Gabor Vali

Atmospheric Science is a rapidly evolving discipline aimed at better understanding the earth's atmosphere and sits at the nexus between meteorology, physics, chemistry, biology, engineering, mathematics and computer science. The entire development of atmospheric science demonstrates how progress can result from the application of knowledge developed in the basic sciences to a complex environmental system. Concurrently, atmospheric scientists develop many observational and analytical techniques unique to the study of the atmosphere. Over the past decades, atmospheric science developed vigorously, stimulated by the availability of the latest satellite, ground-based and aircraft observations, as well as the availability of large computers for numerical simulations of atmospheric processes. At the same time, the importance of the atmosphere as a crucial resource in the welfare and survival of humankind is being recognized, as knowledge about how the atmosphere behaves is obtained.

The Department of Atmospheric Science offers graduate programs leading to the M.S. and Ph.D. degrees.

In these graduate programs, great emphasis is placed on the active research involvement of students both during the academic year and during the summer months. The low student to faculty ratio in the department ensures an atmosphere of cooperation among students, faculty and staff. Student theses and dissertations form integral parts of the department's research productivity and usually lead to articles published in the refereed literature.

Research interests in the department center around cloud and precipitation physics, cloud and mesoscale atmospheric dynamics, boundary layer processes, tropospheric aerosols and atmospheric chemistry, climate change, instrumentation and air quality. These interests are reflected in the department's academic program, which has the breadth and depth necessary to give students a background for entering into many different types of employment upon graduation.

A number of unique research tools are available in the department. Prominent among these is the King Air research aircraft which carries extensive instrumentation and computer-directed data acquisition systems. A mobile lab for sampling near surface atmospheric gases and aerosols can be deployed across the United States. Excellent laboratory facilities are available in the department's spacious quarters. These laboratories focus on cloud physics, remote sensing, aerosol, and atmospheric chemistry. Well-equipped electronic and mechanical construction and design facilities are conducive for work in instrument development. A wide range of computer facilities are available, including access to the NCAR/Wyoming Supercomputer Center(NWSC). The Department of Atmospheric Science is the lead user of the Wyoming allocation of the NWSC.

A prerequisite for admission to the graduate program is a bachelor's degree in meteorology, engineering, physics, chemistry, mathematics or a similar relevant discipline. Graduate assistantships are available by application to the department and are awarded on the basis of past record and promise for achievement.

For material containing further details on curriculum and research programs, write to the graduate admissions coordinator or visit the web site at www.uwyo.edu/atsc/.

Graduate Study

The Department of Atmospheric Science offers degree programs leading to the master of science and doctor of philosophy degrees. The department has strong research programs in the following areas: cloud physics and dynamics; tropospheric aerosols and clouds; greenhouse gases; air pollution and wildfires; boundary layer processes; remote sensing; and airborne instrumentation. The department's observational facilities are: 1) the King Air research aircraft (UWKA); 2) the Air Quality Mobile Lab and the Wyoming Air Quality Monitoring Lab; 3) the Wyoming Cloud Radar (WCR) and Wyoming Cloud Lidar (WCL) for the study of cloud structure and composition; and 4) the Keck Aerosol Laboratory. The UWKA, WCR, and WCL are designated Lower Atmospheric Observing Facilities by the National Science Foundation (NSF). Please refer to the departmental homepage at www.atmos.uwyo.edu for programmatic updates, or contact the department directly.

Program Specific Admission Requirements

Admission based on the university minimum requirements. Admissions are competitive.

Program Specific Graduate Assistantships

Assistantships are offered for both the M.S. and Ph.D. tracks.

Department of Botany

114 Aven Nelson Building, (307) 766-2380
FAX: (307) 766-2851

Website: **www.uwyo.edu/botany**

Department Head: **Brent E. Ewers**

Professors:

ELLEN D. CURRANO, B.Sc. (Hons.) University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Botany 2022, 2014.

BRENT E. EWERS, B.S. Colorado State University 1995; M.S. Duke University 1997; Ph.D. 1999; Professor of Botany 2014, 2002.

DANIEL C. LAUGHLIN, B.S. Calvin College 1999; M.S. Pennsylvania State University 2002; Ph.D. Northern Arizona University 2009; Professor of Botany 2022, 2017.

STEVEN L. MILLER, B.S. University of Wyoming 1979; M.S. Virginia Polytechnic Institute and State University 1982; Ph.D. 1985; Professor of Botany 2002, 1990.

CAMELLIA OKPODU, B.S. North Carolina State University 1987; Ph.D. North Carolina State University 1994; Professor of Botany 2021.

DAVID TANK, B.S. (Hons.) Michigan State University 1998; M.S. Michigan State University 2000; Ph.D. University of Washington 2006; Professor of Botany 2021.

CYNTHIA WEINIG, B.A. (Hons.) Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

DAVID WILLIAMS, B.A. The University of Texas, Austin 1985; M.S. Texas A&M University 1988; Ph.D. Washington State University 1992; Professor of Botany 2009, 2003.

Associate Professors:

CATHERINE E. WAGNER, B.A. (Hons.) Whitman College 2004; Ph.D. Cornell University 2011; Assistant Professor of Botany 2015.

Assistant Professors:

LAUREN SHOEMAKER, B.A. (Hons.) Colorado College 2011; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

CHRISTOPHER WEISS-LEHMAN, B.A. Earlham College 2010; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

Senior Lecturer:

MARK E. LYFORD, B.A. St. Olaf College 1993; M.S. University of Wyoming 1995; Ph.D. 2001; Senior Lecturer in Botany 2014, 2005.

Associate Instructional Professor:

CHRISTOPHER NORTH, B.S. Virginia Polytechnic Institute and State University 2002; M.S. Eastern Illinois University 2005; Ph.D. University of Wyoming 2017; Associate Instructional Professor in Botany 2022, 2014.

Assistant Instructional Professor:

JAMIE CRAIT, B.Sc. Oregon State University 1999; M.S. University of Wyoming 2005; Ph.D. 2013; Assistant Lecturer in Botany 2018.

Senior Research Scientist:

BURRELL E. NELSON, B.A. Andrews University 1971; M.A. University of Wyoming 1974; Senior Research Scientist.

Research Scientist:

BEN LEGLER, B.S. University of Washington 2001; M.S. University of Wyoming 2010; Research Scientist 2021.

Professors Emeriti:

Dennis H. Knight, Stephen T. Jackson, William A. Reiners

Associate Professors Emeriti:

Daniel B. Tinker

Botany

Botany is the study of plants and their relationship to human affairs. The science is fundamental to food, fiber and pharmaceutical production; to the management of landscapes for beauty, recreation, forest products and forage; and to the protection of landscapes against pollution and other abuses. The botanist is concerned with the diversity and classification of plants and fungi, their structure at both the macroscopic and microscopic levels, and their physiology, ecology and genetics and evolutionary relationships.

Courses in botany have been developed to meet the needs of the following groups of students: those who desire a general knowledge of the subject for its cultural value, those specializing in areas which require a background in plant biology, and those selecting botany or biology as a major.

Undergraduate Degrees:

Students can choose from two undergraduate degree majors: the Botany B.S. and Biology B.S. programs. The Biology B.S. program includes an optional Concentration in Ecology and Evolution. The Biology B.S. degree program also maintains a concurrent major offered through the College of Education whereby students fulfill all the major requirements for Biology on top of their requirements for the B.S. degree in Secondary Science Education with a major in Biological Sciences Education.

Undergraduate Minors:

Minors in Biology and Botany are offered.

Graduate Study:

The Department of Botany offers graduate programs leading to the master of science and the doctor of philosophy degrees in botany.

Program Specific Admission Requirements (Graduate Study)

A minimum GPA of 3.000 on previous coursework is required.

Program Specific Degree Requirements (Graduate Study)

Regardless of field of specialization, all candidates will be held responsible for basic information in the following areas: genetics, physiology, morphology, and evolutionary and environmental botany. A knowledge of chemistry (including organic and elementary biochemistry), physics, calculus, and statistics may be required.

A minimum GPA of 3.000 must be maintained. Any course in which a C (or below) or U is obtained cannot be counted toward the degree requirement.

Participation in seminars will be required of all candidates during their residence at the University of Wyoming.

Department of Chemical and Biomedical Engineering

4055 Engineering Building, (307) 766-2500
Web site: www.uwyo.edu/chemical
Department Head: SAMAN ARYANA

Professors:

VLADIMIR ALVARADO, B.Sc. Universidad Central de Venezuela 1987; M.S. Institut Francais du Pétrole 2002; Ph.D. University of Minnesota 1996; Professor of Chemical Engineering 2017, 2006.

DAVID M. BAGLEY, B.S. Colorado School of Mines 1984; M.S. Cornell University 1989; Ph.D. 1993; Professor of Chemical Engineering 2011, 2005.

DAVID A. BELL, B.S. University of Washington 1976; M.S. Rice University 1979; Ph.D. Colorado State University 1992; Professor of Chemical Engineering 2019, 1993.

JOSEPH HOLLES, B.S. Iowa State University 1990; M.E. University of Virginia 1998; Ph.D. 2000; Associate Professor of Chemical Engineering 2010.

JOHN OAKEY, B.S. The Pennsylvania State University 1997; M.S. Colorado School of Mines 1999; Ph.D. 2003; Professor of Chemical Engineering 2019, 2010.

MICHAEL V. PISHKO, B.S. University of Missouri-Columbia 1986; M.S. 1987; Ph.D. University of Texas at Austin 1992; Professor of Chemical Engineering 2015.

PATRICK JOHNSON, B.S. Lehigh University 1992; M.S. University of Virginia 1994; Ph.D. Columbia University 2004; Associate Professor of Chemical Engineering 2012,2006.

Associate Professors:

SAMAN ARYANA, B.S. University of Texas at Arlington 2003; M.S. 2006; Ph.D. Stanford University 2012; Assistant Professor of Chemical Engineering 2013.

KATIE DONGMEI LI-OAKEY, B.S. Shandong University of Technology 1994; M.S. Tianjin University 1997; M.S. University of Colorado at Boulder 1999; Ph.D. 2003; Associate Professor of Chemical Engineering 2018, 2011.

Associate Professor of Practice:

JOHN TATARKO JR., B. ChE, cum laude: 2008 Cleveland State University. MS ChE: 2010 Cleveland State University. MS EE: 2013 University of Louisville. PhD ChE: 2015 University of Louisville.

Assistant Professors:

KAREN WAWROUSEK, B.S. The College of St. Rose 2001; Ph.D. California Institute of Technology 2009; Assistant Professor of Chemical Engineering 2014.

Adjunct Professors:

John Ackerman
Morris Argyle
Youqing Shen
John Schabron

Professors Emeriti:

Chang Yul Cha
H. Gordon Harris
Henry W. Haynes

Chemical Engineering is one of the most versatile of the engineering programs. It prepares students for employment in many diverse fields, such as production of pharmaceuticals, polymers and plastics, semiconductors, heavy industrial chemicals, synthetic fuels, petrochemicals and petroleum refining. Chemical engineers also work in biological engineering, environmental engineering, enhanced oil recovery, corrosion control, metallurgy and microelectronics. Undergraduate chemical engineering training has been found to be an excellent background for graduate work not only in engineering, but also in a number of other fields, including medicine, law, business, and the natural sciences.

The chemical engineering curriculum is based on a sound background in chemistry, mathematics, physics, and biology. The essentials of engineering are added to this foundation, including fluid dynamics and thermodynamics. In order to develop the individual's social consciousness and to broaden the student's educational background, an integrated program of study in the humanities and social sciences is included in the curriculum. Chemical engineering courses in multicomponent thermodynamics, transport phenomena, kinetics, process control and process design are concentrated in the junior and senior years. This program provides training for engineers to enter production, research, product and process development, process design, technical sales and engineering management positions. Training in chemical engineering equips the graduate to solve many of the problems facing society today: human health, energy shortages, synthetic fuels production, water and air pollution, toxic chemical control, and food production. Furthermore, our program prepares students interested in a career in medicine or the life sciences and is suitable for pre-medical and pre-dental students.

The department offers an 18-credit-hour block of approved technical electives. Students select an emphasis in Biological Engineering, Environmental Engineering, Materials Science and Engineering, Chemical Process Industry, Petroleum Engineering, Graduate School Preparation, and Pre-Medicine. Students can also pursue a concurrent major in Chemistry, minors in Physics, Chemistry, Math, Computer Science, Molecular Biology and Business. See department for details.

Chemical Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduate Study

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering. The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering, the Department of Petroleum Engineering, and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

Program Specific Admission Requirements

Admission Process and Requirements

Standard Admission

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

1. A GPA of 3.000 (A = 4.000), or equivalent;
2. A GRE score (there is no minimum GRE score requirement)
3. For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree:

A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) or an IELTS score of 6.5.

Unofficial transcripts of all prior college-level coursework, test scores and recommendations from three references must be uploaded as parts of the application.

If admission is granted, then official transcripts, GRE and TOEFL scores are required.

Applications submitted by February 1 will be given priority consideration for the fall semester.

The application will not be processed until all the necessary documents have been uploaded.

Department of Chemistry

204 Physical Sciences Building,
(307) 766-4363
FAX: (307) 766-2807

Web site: www.uwyo.edu/chemistry
Department Head: Brian Leonard

Professors:

DAVID T. ANDERSON, B.S. George Washington University 1987; Ph.D. Dartmouth College 1993; Professor of Chemistry 2012, 2000.

FRANCO BASILE, B.S. University of Wisconsin-Eau Claire 1986; Ph.D. Purdue University 1992; Professor of Chemistry 2018, 2003.

DEBASHIS DUTTA, B. Tech Indian Institute of Technology 1998; Ph.D. University of Notre Dame 2003; Professor of Chemistry 2017, 2006.

JOHN O. HOBERG, B.A. Jamestown College 1984; Ph.D. Montana State University 1990; Professor of Chemistry 2020, 2004.

TERESA LEHMANN DELLA VOLPE, B.S. Universidad Central de Venezuela 1987; Ph.D. University of Minnesota 1997; Professor of Chemistry 2021, 2008.

BRIAN M. LEONARD, B.S. University of Nebraska at Kearney 2003; Ph.D. Texas A&M 2008; Professor of Chemistry 2022, 2016, 2010.

J**ING ZHOU,** B.S. Xiamen University 1997; Ph.D. University of South Carolina 2004; Professor of Chemistry 2021, 2007.

Associate Professors:

CALEB M. HILL, B.S. Jacksonville State University 2009; Ph.D. University of Alabama 2014; Assistant Professor of Chemistry 2016, Associate Professor of Chemistry 2022.

ELLIOTT HULLEY, B.S. Ursinus College 2005; Ph.D. Cornell University 2011; Associate Professor of Chemistry 2020, 2014.

Assistant Professors:

XUESONG LI, B.S. China University of Geosciences, Beijing 2008; Ph.D. University of Bordeaux 2016; Ph.D. University of Liege 2016; Assistant Professor of Chemistry 2023.

LAURA RITA DE SOUSA OLIVEIRA, B.S. New Mexico Institute of Mining and Technology 2010; Ph.D. University of California, Riverside 2017; Assistant Professor of Chemistry 2020.

Research Faculty:

NAVAMONEY ARULSAMY, B.Sc. Madurai-Kamaraj University, India 1982; M.Sc. 1986; Ph.D. University of Hyderabad, India 1991; Senior Research Scientist 2013, 2005.

ALEXANDER GORONCY, B.S. University of Bremen; Ph.D. University of South Carolina; Research Scientist 2015.

Adjunct Professors:

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Adjunct Professor of Chemistry 2001.

KRISTIN DI BONA, Ph.D. The University of Alabama 2014; Adjunct Professor of Chemistry 2022

MAOHONG FAN, Ph.D. Osaka University 2003; Professor in SER and CEAS; Adjunct Professor of Chemistry 2009.

ROBIN D. ROGERS, Ph.D. University of Alabama 1982, University of Alabama, President/ Owner/ Founder, 525 Solutions, Inc. 2017, Professor Emeritus 2021, University of Alabama, Adjunct Professor of Chemistry 2022.

Associate Lecturer:

GINKA S. KUBELKA, M.S. University of Wuerzburg, Germany 2010; Ph.D. University of Wyoming 2015. Associate Lecturer of Chemistry 2022, 2016.

Assistant Lecturers:

INDRAJIT BANDY, BSc. University of Calcutta, India 2011; MSc. University of Calcutta, India 2013; Ph.D. Arizona State University, USA 2019; Assistant Lecturer of Chemistry 2023.

KUI CHEN, B.Sc. Xiamen University 1997; Ph.D. University of South Carolina 2004; Assistant Lecturer of Chemistry 2019.

Professors Emeritus:

Vernon Archer, Keith T. Carron, Robert Corcoran, Clyde Edmiston, Anthony Guzzo, Suzanne Harris, Robert Hurtubise, David Jaeger, E.G. Meyer, Bruce A. Parkinson, Dean M. Roddick, Edward Clennan.

Senior Lecturer Emeritus:

Patricia A. Goodson

Chemistry is one of the fundamental physical sciences dealing with the structure and properties of matter, along with changes that matter undergoes. Chemistry's scope encompasses all substances, living and non-living. Its study and practice include (1) the theoretical and experimental aspects of chemical bonding and structure using computational, spectroscopic, and diffraction techniques; (2) the laboratory synthesis from simple starting materials of desirable compounds in the inorganic, organic and biological classes; and (3) the total analysis of complex mixtures using modern spectroscopic and electrochemical methods. Since we live in a material world, applications of chemical knowledge influence most areas of human endeavor: scientific, economic, political and social. Many of the advances in the areas of new materials, medicines, biotechnology, food production, new energy sources and semiconductor technology associated with the "computer revolution" are based on chemistry and chemical principles. Some understanding of these chemical principles should be part of every educated person's knowledge.

Because of the broad scope of this discipline, the Department of Chemistry offers a variety of courses and programs. These programs meet the needs of students planning professional careers in chemistry and those wishing to major in chemistry for other objectives. In particular, chemistry is a traditional pre-professional major for students interested in

medicine and dentistry. Specific courses are offered to serve other major areas and as part of University Studies and A&S core requirements.

Students who have taken an AP examination and have received a score of 4 or 5 may receive credit for CHEM 1020 and CHEM 1030.

Undergraduate Minor

A minor is offered in the Department of Chemistry. Further information may be found at the web site www.uwyo.edu/chemistry.

Graduate Study

The Department of Chemistry offers programs leading to the degrees of master of science and doctor of philosophy chemistry. The master's degree is offered mainly under Plan A with Plan B reserved for special circumstances.

The department also participates in the preparation of students for the degrees of master of science in natural science and master of science in teaching (M.S.T.), which are designed to improve the competence of those engaged in science teaching.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Chemistry requires that a student have taken the following undergraduate courses: one year of general chemistry; one semester/quarter of quantitative analysis; one year of organic chemistry plus laboratory; one year of physical chemistry plus laboratory; one year of physics; and mathematics through multivariable calculus. As appropriate, one or more of these course requirements may be waived at the discretion of the department.

The University of Wyoming Chemistry Department is accredited by the American Chemical Society (ACS).

Department of Civil and Architectural Engineering and Construction Management

3074 Engineering Building, (307) 766-2390
FAX: (307) 766-2221
Web site: www.uwyo.edu/civil/
Department Head: Anthony S. Denzer

Professors:

MICHAEL G. BARKER, B.S. Purdue University 1983; M.S. 1987; Ph.D. University of Minnesota 1990; Professor of Civil Engineering 2003.

JONATHAN A. BRANT, B.S. Virginia Military Institute 1998; M.S. University of Nevada 2000; Ph.D. 2003; Professor of Civil Engineering 2020, 2008.

ANTHONY S. DENZER, B.A. University of California, Berkeley 1991; M.Arch. University of Kansas 1998; Ph.D. University of California, Los Angeles 2005; Professor of Architectural Engineering, 2021, 2005.

FRANCOIS JACOBS, B.S. California Baptist University 1995; M.B.A. University of Denver 2005; Ph.D. Colorado State University 2010; Associate Professor of Construction Management, 2019.

KHALED KSAIBATI, B.S. Wayne State University 1984; M.S. Purdue University 1986; Ph.D. Purdue University 1990; Professor of Civil Engineering 2001; Director of the Wyoming Technology Transfer Center 2003, 1990.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

JENNIFER E. TANNER, B.A. Eastern College 1994; B.S. Oklahoma State University 1995; M.S. University of Costa Rica 1998; Ph.D. University of Texas 2003; Associate Professor of Civil Engineering 2009, 2003.

MICHAEL A. URYNOWICZ, B.S. Michigan State University 1990; M.S. University of Wisconsin 1995; M.S. Colorado School of Mines 1998; Ph.D. 2000; Professor of Civil Engineering 2014, 2002.

HAIBO ZHAI, B.S. Xi'an University of Technology 1999; M.S.Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

JIANTING "JULIAN" ZHU, B.S. Zhejiang University 1983; M.S. Peking University 1985; Ph.D. Dalhousie University 1996; Professor of Civil Engineering 2019, 2013.

Associate Professors:

DAVID J. MUKAI, B.S. University of Hawaii 1983; M.S. 1985; Ph.D. University of Washington 1991; Associate Professor of Civil Engineering 2005, 2001.

NORIAKI OHARA, B.A. Chuo University 1997; M.A. 1999; Ph.D. University of California, Davis 2003; Associate Professor of Civil Engineering 2019, 2012.

LIPING WANG, B.S. Xi'an University of Architecture and Technology 2010; M.S. 2003; Ph.D. National University of Singapore 2007; Associate Professor of Architectural Engineering, 2020, 2013.

CHENGYI "CHARLIE" ZHANG, B.S. Harbin University of Commerce 2007; M.S. China University of Mining and Technology, Beijing 2009; Ph.D. Illinois Institute of Technology 2013; Assistant Professor of Construction Management, 2020.

MILAN ZLATKOVIC, B.S. University of Belgrade 2005; M.S. University of Utah 2009; Ph.D. 2015; Assistant Professor of Civil Engineering, 2016.

Assistant Professors:

AHMED ABDELATY AHMED, B.S. Cairo University 2001; M.S. 2014; Ph.D. Iowa State University, 2017; Assistant Professor of Construction Management, 2020.

AYSEGUL DEMIR, B.S. Dokuz Eylul University 2013; M.S. Istanbul Technical University 2016; Ph.D The University of Texas at Austin 2022.

SONG, YU, B.Eng., Traffic & Transportation, Beijing Jiaotong University 2010; M.Sc., Transport & Planning, Cardiff University 2012; M.S., Civil & Environmental Engineering, University of Utah 2016, Ph.D., Civil & Environmental Engineering, University of Wisconsin-Madison 2021.

RYAN WEBB W., B.S. University of New Mexico, Albuquerque, NM 2010; M.S. University of New Mexico, Albuquerque, NM 2012; Ph.D. Colorado State University, Fort Collins, CO 2016; Assistant Professor of Construction Management, 2021.

Assistant Instructional Professors:

SHAWN C. GRIFFITHS, B.S. Utah State University 2009; M.S. University of Arkansas 2011; Ph.D. University of Texas, Austin 2015; Assistant Professor of Civil Engineering 2015.

Academic Professionals:

DHAWAL JAIN, B.S. K.R.V.I.A Mumbai India 2014; M.S. Virginia Tech 2018.

SHELLEY MACY, B.S. University of Wyoming 2002; M.S. University of Wyoming, 2013; Assistant Lecturer, 2021.

Adjunct Faculty:

Song Jin, Jeffrey Keely, Mark Kilgore, Robert Loane, Alan Moore, Evan O'Toole, Chris Schabron, Dennis Mouland, Nathan Bergh. Lindsay Schumaker.

Professors Emeriti:

Patricia J.S. Colberg, Charles W. Dolan, Thomas V. Edgar, K. James Fornstrom, Victor R. Hasfurther, Michael Humenick, Anton Munari, Larry O. Pochop, Jay Puckett, Richard J. Schmidt, James L. Smith, John P. Turner.

Civil Engineering

The mission of the department of Civil and Architectural Engineering and Construction Management at the University of Wyoming is:

- To educate and prepare Civil & Architectural Engineering and Construction Management students to lead as designers, builders, project managers and entrepreneurs as it relates to the sustainable built and natural environments.
- To develop technical solutions through research, innovation, and improved infrastructure to diversify and grow the economies that serve Wyoming and the world.

The Civil Engineering curriculum begins with a basic education in the physical, engineering, mathematical and computer sciences. This foundation supports further development of engineering topics that prepare the engineer to address critical societal needs. To meet these needs, the Civil Engineer designs and builds bridges, buildings, dams and hydraulic structures, pipelines and canals, power plants, transportation facilities, sanitary and environmental engineering facilities, surveying and mapping systems, space and ocean platforms, as well as numerous other engineering systems. The civil engineer must also be aware of the social, humanistic, and political aspects of their projects. Therefore, course work in the humanities and social sciences is required to better understand the social aspects of public works. During the last two years of their program, students may pursue several areas of Civil Engineering or, depending upon their interests, more specialized courses in one or more of the specific technical areas listed below. All students must have a comprehensive design experience.

Structural engineering: Analysis and design of structural systems including buildings, bridges, towers and other structures. Structural engineering also includes the study of solid mechanics and advanced structural materials.

Environmental engineering: Analysis, design and development of engineering systems to provide potable water supplies, treat municipal, industrial and hazardous wastes and protect human health and the environment.

Water resource engineering: Planning, analysis and design of hydraulic and hydrologic systems with respect to watersheds, municipalities, irrigation and drainage, and flood control. Conservation and management of groundwater and surface water are emphasized.

Transportation engineering: Planning, analysis and design of highways, traffic engineering and control, traffic safety, and pavement maintenance, design and rehabilitation.

Geotechnical engineering: Design and analysis of foundations, dams, embankments, slope stability and construction practices in soil and rock.

The Civil Engineering curriculum prepares the graduate to engage in professional practice, and upon completion of post-graduate requirements, to obtain registration as a Professional Engineer. It also provides the graduate with an excellent preparation for graduate studies in engineering, business or law.

Civil Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours. Students may have a maximum of 6 credits in courses with a grade of D in upper division CE courses that apply towards their degree program.

Computer Requirement

Many courses in Civil Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software program (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

CE Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

CE-OB1. Be able to successfully practice the profession of Civil Engineering.
CE-OB2. Be prepared and motivated to accept challenging assignments and responsibilities.
CE-OB3. Demonstrate successful professional growth through leadership development and career progression.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills.

Specifically, every University of Wyoming Civil Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Transfer Coursework: The Civil Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I
- PHYS 1210 - Engineering Physics I
  OR
- PHYS 1220 - Engineering Physics II
- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information.

Graduate Study

Graduate Programs

An advanced degree in civil and architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and doctor of philosophy. Areas of study in the M.S. and Ph.D. programs include: environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources engineering. The department also offers a master of science in architectural engineering and a master of science in environmental engineering in cooperation with the Department of Chemical and Petroleum Engineering. Additional information is available from the department or from the Web page.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree with at least a 3.000 GPA from an accredited engineering curriculum and a GRE combined minimum score of 298.

Ph.D. applicants are reviewed with regard to stated interests, objectives and the ability of the department to provide a quality experience for the applicant.

International students must achieve a TOEFL score of 550 on the paper-based, a minimum of 76 on the internet-based or a minimum of 6.0 on the IELTS.

Architectural Engineering

Architectural Engineering is a rapidly expanding profession that deals with the myriad aspects of buildings and their design, construction and operation. Architectural Engineers are typically specialists, responsible for the design and integration of such building elements as the structural, plumbing, fire protection, heating and air conditioning, or lighting and electrical systems. The curriculum in architectural engineering is designed to acquaint students with the various aspects of building design and construction and exposes them to a variety of courses dealing with different building materials and systems. The curriculum also includes course work in the humanities and social sciences, both to enrich the student's academic experience and assist in dealing with and contributing to society. The program leads to a Bachelor of Science in Architectural Engineering, preparing graduates to engage in practice as Professional Engineers upon completion of post-graduate registration requirements. Graduate work with emphasis in Architectural Engineering leading to a Master of Science and Doctor of Philosophy degree is offered through the Civil and Mechanical Engineering Programs. Additionally, advanced study can also be pursued in allied areas such as architecture, business or other engineering fields.

Students choose an area of emphasis in either structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists.

Architectural Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours.

Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree program.

Computer Requirement

Many courses in Architectural Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software programs (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

Architectural Engineering Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

ARE-OB1 Be able to successfully practice the profession of Architectural Engineering.
ARE-OB2 Be prepared and motivated to accept challenging assignments and responsibilities.
ARE-OB3 Demonstrate successful professional growth through leadership development and career progression.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Transfer Coursework: The Architectural Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I
  OR
- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics

- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information

Graduate Study

Graduate Programs

An advanced degree in architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and Areas of study in the M.S. programs include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, and building energy modeling. Additional information is available from the department or from the Web page.

Students choose an area of emphasis in either, building, structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists. Students are required to have a lap top computer.

Architectural engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in civil and architectural engineering courses attempted at this university.

Construction Management

Construction Management is a rapidly-growing discipline, that is focused on the planning and oversight required to deliver construction projects on-time and on-budget. Students learn skills such as project management, decision making, budgeting, scheduling, and site logistics including safety planning, surveying, and building information modeling.

The Construction Management curriculum is designed to prepare students for success in a wide variety of career paths available in the construction sector. The curriculum includes course work in construction, business, humanities and social sciences to enrich the student's academic experience and to assist them in making a positive contribution to society. The program leads to a four-year Bachelor of Science in Construction Management degree.

Construction Management degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 in courses required for the major.

A grade of C or better is required in all required courses with a CM prefix.

Construction Management Learning Objectives

Upon graduation students shall be able to:

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used to construct projects.
9. Apply electronic-based technology to manage the construction process.
10. Apply basic surveying techniques for construction layout and control.
11. Understand construction management skills as a member of a multi-disciplinary team.
12. Understand different methods for project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping system.

The University of Wyoming Construction Management program is accredited by the American Council for Construction Education (ACCE).

Environmental Engineering

3074/4055 Engineering Building,
766-5255/766-2500
E-mail: cae.info@uwyo.edu
Web site: www.uwyo.edu/chemical/graduate/prospective/environmental/index.html

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering. This interdisciplinary degree offers students an engineering perspective for solutions to environmental problems. Emphasis is on minimization, monitoring, control, and processing of waste products as well as treatment and disposal associated with point and non-point pollution sources. Integration of engineering with science, regulatory, and policy aspects of environmental engineering is an important component of this unique program. Further information is available from the environmental engineering graduate studies program office and/or departments involved.

Program Specific Admission Requirements

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

1. A GPA of 3.000 (A=4.000), or equivalent;
2. A GRE score of 291 (combined verbal and quantitative sections);
3. For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree: A TOEFL score of 76 (Internet based) or an IELTS score of 6.0.

Complete official transcripts of all prior college-level coursework and recommendations from three references must be submitted as parts of the application.

The deadline to submit application credentials is February 1 (to be considered for fall semester), and October 1 (to be considered for spring semester).

The application will not be processed until all the necessary documents have been submitted.

Department of Communication and Journalism

223 Ross Hall, (307) 766-3122
FAX: (307) 766-5293
Web site: www.uwyo.edu/COJO
Department Chair: Cindy Price Schultz

Professor:

CHIA FANG (SANDY) HSU, B.A. Chinese Culture University 1995; M.A. Washington State University 1997; Ph.D. Washington State University 2002; Associate Professor of Communication and Journalism 2009, 2003.

Associate Professors:

LI LI, B.A. Hebei Normal University 2001; M.A. China University of Mining and Technology 2004; M.A. Ohio University 2009; Ph.D. 2012; Associate Professor of Communication and Journalism 2019, 2012.

CINDY J. PRICE SCHULTZ, B.A. University of Sioux Falls 1989; M.S. South Dakota State University 1992; Ph.D. Southern Illinois University 2000; Associate Professor of Communication and Journalism 2005, 1999.

Assistant Professor:

SHANE EPPING, B.A. University of Chicago; M.A. Washington University, St. Louis; M.A. University of Missouri; Ph.D., University of Missouri.

HYE SOO NAH, B.A. Hankuk University, 2008; M.A., University of Missouri, 2011; Ph.D., University of Illinois, 2023.

Senior Lecturers:

BEAU BINGHAM, B.S. Idaho State University 2000; M.A. New Mexico State University 2002; Senior Lecturer of Communication and Journalism 2007, 2003.

JUSTIN STEWART, B.A. University of Wyoming 2003; M.A. 2005; Senior Lecturer of Communication and Journalism 2017, 2005.

Assistant Lecturers:

MATTHEW LIU, B.A. University of Mary Washington 2009; M.A. Wake Forest University 2014; Assistant Lecturer of Communication and Journalism 2019.

MITZI STEWART, B.A. University of Wyoming 2007; M.A. 2015; Assistant Lecturer of Communication and Journalism 2019.

Emeriti:

Michael R. Brown, B. Wayne Callaway, William C. Donaghy, John W. Ravage, Kenneth L. Smith

The Department of Communication and Journalism provides a broad range of professional and research courses, offering a sound interdisciplinary academic program for students who plan careers in communication or media. Courses are comprised of writing, speaking and analyzing messages; forms of interpersonal communication; media effects and audiences' interpretations of media messages and images. Degrees are granted in communication and journalism with academic specialties in each of the degree areas. Students are given academic preparation in communication skills (media writing and public speaking), coupled with opportunities for professional experience in their majors. The department also offers minors in public relations, communication, journalism, and marketing communication.

Facilities and Research Activities

The department encourages majors to work actively in professional opportunities. The department offers unique experience for students with the student newspaper, *The Branding Iron*.

Oral Communication Center, Ross Hall 442. A resource for the entire university community. The lab is open for anyone required to present material orally. Lab instructors offer assistance at any stage in the process-from topic selection, purpose statements and gathering materials-to organizing, outlining and rehearsal. They can help alleviate speech anxiety that may prevent or inhibit some individuals from achieving their overall academic or career goals. Clients can have their presentations recorded for critical input and evaluation as well as for portfolio or interview applications.

Debate. The department conducts a nationally recognized program of Cross Examination Debate Association (CEDA) and has a College Public Forum team. Teams and individuals representing the university attend national intercollegiate tournaments each year. Participation in the forensics program is open to all University of Wyoming students on a credit (COJO 2099) or non-credit basis.

Laboratories. The department has computer laboratories that support the professional, academic and research programs. These include a computer lab and digital production equipment.

Research. The department encourages undergraduate and graduate research. Faculty and students participate in research projects in social, cultural and political aspects related to media, interpersonal and organizational processes.

Internships. Journalism majors are required to complete internships in their field. Communication majors are encouraged to complete internships in their field. In addition to working with the *Branding Iron*, students can complete internships with newspapers; advertising and public relations agencies; non-profit organizations; businesses, professional and university sports organizations; governmental agencies; and many others. *Note*: a maximum of 6 hours in COJO 3480 and COJO 4990 count as fulfillment of the requirements for a major. Up to 12 hours will count toward graduation as upper-division hours.

Student Organizations

Professional Organizations. The department has a chapter of Lambda Pi Eta, communication honorary.

Student Activity. Within the department, student representatives participate on faculty committees where they assist in forming policies of the department.

The Branding Iron. The daily campus newspaper is independently managed by students at UW. It provides professional experiences for reporting, editorial, photojournalism, publication design and advertising.

The Owen Wister Review. The literary and arts magazine is independently managed and produced by university students, it features poetry, short stories, essays, photography and artwork.

Frontiers Magazine. The magazine is independently managed by UW students. Containing general interest content, the publication offers students opportunities to improve their professional skills in feature writing, in-depth reporting, photography, layout, design, advertising and marketing. Like the *Branding Iron* and *Owen Wister Review*, *Frontiers* is published under the auspices of UW Student Publications.

Scholarships and Awards

The department has several scholarships available to qualified students. Most are managed by Student Financial Aid.

Undergraduate Programs

The department offers courses leading to baccalaureate degrees in communication and journalism, as well as being an instrumental part of the Agricultural Communications degree. If a student wishes to double major in any of these degrees, only six credits will double count for each major.

Students majoring in the department must earn a grade of C or better in departmental required courses. Students may not take a course for S/U credit to satisfy requirements of the major.

Minors

The department offers minors in communication, journalism, marketing communication, and public relations. All minors must have a 2.00 minimum in minor classes. If a student is a communication, journalism or Agricultural Communications major, only six credits can double count for the major and the minor.

Graduate Study

The Department of Communication and Journalism offers graduate work leading to the master of arts degree in communication (either thesis or non-thesis) with emphasis on human communication or media communication.

The program offers coursework and study in rhetorical, critical/cultural, and social scientific perspectives and methodologies. The program is designed to be flexible such that students can examine questions that relate to their specific interests in human communication and/or mediated communication. Areas of interest include but are not limited to 1) communication processes in media (e.g., journalism, social media, advertising, public relations) about various issues such as politics, race and ethnicity, science, health, law and ethics, and international relations; 2) communication processes in human relationships (e.g., in interpersonal, small group, and organizational settings) about various issues such as culture, diversity, education, technology, science, and politics; and 3) communication as an agent of stability and change in diverse social systems.

Program Specific Admission Requirements

A cumulative minimum grade point average of 3.000 (A=4.000) on previous coursework is required for full admission.

The GRE is not required for admission to the graduate program. However, anyone who wants to be considered for a graduate assistantship in the department must take the GRE.

For international graduate students, the minimum acceptable TOEFL score is 540 (76 iBT). The minimum acceptable IELTS score is 6.5. International students must also provide proof of financial support (see UW Admissions for more details).

All graduate student applications, both domestic and international, must provide a writing sample of their work, whether that is a research paper, media publication, or another example of scholarly work. Please contact the director of graduate studies with any questions about the writing sample.

Department of Criminal Justice and Sociology

Contact Information

208 Arts and Sciences Building,
(307) 766-2988
Criminal Justice website: www.uwyo.edu/cj **Sociology website:** www.uwyo.edu/Sociology
Department Head: Eric Wodahl

Mission Statement

The Department of Criminal Justice & Sociology is committed to providing its students with a comprehensive liberal arts education and advancing research of value to Wyoming and our respective fields. We strive to provide a high-quality education to students that will inspire them to become critical thinkers, effective communicators, and lifelong consumers of knowledge. Students will be exposed to diverse perspectives, research, and learning opportunities to prepare them for a variety of professions in the public, private, non-profit, research, service, and academic settings.

Faculty

Professors:

ADRIENNE FRENG, B.A. Black Hills State University 1995; M.A. University of Nebraska 1997; Ph.D. 2001; Professor of Criminal Justice 2007, 2001.

ERIC J. WODAHL, A.A. Eastern Wyoming College 1992; B.A. Chadron State College 1994; M.P.A. University of Wyoming 2003; Ph.D. University of Nebraska at Omaha 2007; Professor of Criminal Justice 2021, 2007.

Associate Professors:

JAMIE A. SNYDER, B.S. Northern Kentucky University 2005; M.S. University of Cincinnati 2007; Ph.D. 2011; Associate Professor of Criminal Justice 2021, 2018.

JENNIFER TABLER, B.A. University of California Los Angeles 2010; M.S. University of Utah 2013; Ph.D. 2016; Associate Professor of Sociology 2022, 2018.

CLAIR UDING, B.A. Colorado State University 2009; Ph.D. Arizona State University 2015; Associate Professor of Criminal Justice 2023, 2018.

Assistant Professors:

DANIEL AUERBACH, B.S. St. Lawrence University 2008; M.S. North Carolina State University 2012; Ph.D. University of Utah 2020; Assistant Professor of Sociology 2020.

KYLE BARES, B.A. University of Wyoming 2016; M.A. Bowling Green State University 2018; Ph.D. Bowling Green State University 2021; Assistant Professor of Criminal Justice 2022.

KATELYN GOLLADAY, B.B.A. Pacific Lutheran University 2012; M.S. Arizona State University 2014; Ph.D. 2018; Assistant Professor of Criminal Justice 2018.

KENNETH R HANSON, B.A. Seattle University 2015; M.A. Kent State University 2017; Ph.D. University of Oregon 2022; Assistant Professor of Sociology 2022.

JULIE KUPER, B.S. Florida State University; M.S. Florida State University; Ph.D. Florida State University, 2024; Assistant Professor 2024.

Lecturers:

DANIEL FETSCO, B.A. University of Wyoming 1995; J.D. University of Denver 1998; M.A. Arizona State University 2013; Associate Lecturer of Criminal Justice 2023, 2017.

PAUL GREGORY, B.S. Lamar University 1992; M.A. University of Houston; Ph.D. Western Michigan University; Assistant Lecturer 2024.

AMANDA SIKIRICA, B.A. College of William and Mary; M.S. University of Oregon; Ph.D. University of Oregon; Assistant Lecturer 2023.

Adjunct Professor:

(See Catalog section following name for academic credentials.)

MARTHA MCCAUGHEY, Ph.D., Visiting Adjunct Professor

Professors Emeriti:

David Ashley, Audie Blevins, Gary Hampe, Malcolm Holmes, Quee-Young Kim, Richard Machalek

Degree Programs

Criminal Justice Program

Criminal Justice is a social science that major examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services. The Criminal Justice Program offers both undergraduate and graduate degrees, concentrations, and minors (see below for details). Criminal Justice students will be involved in a critical examination of the sources of criminal behavior and the social and political institutions and processes designed to control criminal behavior. We expect that our graduating students will have achieved the following learning outcomes:

1. Students will identify and describe major types of crime, the extent of crime, and its distribution in society.
2. Students will describe the broad historical and contemporary understanding of criminal justice systems, the interconnectedness of policing, courts, and corrections.

3. Students will recognize and apply major legal principles that serve as the foundation for civil and criminal law in the justice system.
4. Students will describe basic concepts and evaluate theoretical perspectives in criminology and criminal justice.
5. Students will demonstrate the ability to comprehend and critically assess research and policy relevant to the field of criminal justice and criminology.
6. Students will critically examine major ethical dilemmas facing the criminal justice field and the related issues of diversity and discrimination.

Sociology Program

Sociology is the scientific study of group life and the investigation of the social causes and consequences of human behavior. This discipline occupies a central position in the social sciences and covers the full scope of social behaviors, from interactions between individuals to relationships among entire societies. Most importantly, sociology invites students to analyze those features of social existence that we are most likely to take for granted. As such, sociological training imparts critical and analytical skills of great value in virtually all aspects of modern life.

Much of the applied knowledge employed in diverse fields such as communications, social work, business management, family life, health care, urban planning, government, education, religion and the administration of justice derives from basic sociological research. Consequently, sociological training provides an excellent background for occupations connected with these fields. In addition, an undergraduate degree in sociology prepares many students for advanced study in law, education, business, public administration, social work, pastoral work, health care and other professions.

We expect that our graduating students will have achieved the following learning outcomes:

1. Demonstrate an understanding of basic concepts and theoretical perspectives in sociology
2. Apply the scientific method to sociological research
3. Develop proficiency in the critical consumption of academic and non-academic sources
4. Express sociological ideas in core substantive areas, such as inequality, race/ethnicity, environment, deviance, gender, family, and education, clearly and coherently through written and oral communication
5. Apply a sociological framework to social problems occurring locally, nationally, and globally

Department of Economics

260W Business Building
Web site: www.uwyo.edu/economics
Department Chairman: Alexandre Skiba

John S. Bugas Chair in Economics:

TODD CHERRY, B.S.B.A. Appalachian State University 1992; M.A. University of North Carolina Greensboro 1995; Ph.D. University of Wyoming, 1999. Professor of Economics, Graduate Director, 2020.

H.A. (Dave) True, Jr. Chair in Petroleum and Natural Gas Economics:

CHARLES F. MASON, A.B. University of California 1977; Ph.D. 1983; Professor of Economics 1994, 1982.

Stroock Chair of Natural Resource and Environmental Economics:

JASON F. SHOGREN, B.A. University of Minnesota-Duluth 1980; Ph.D. University of Wyoming 1986; Professor of Economics 1995.

Wyoming Excellence Chair in Conservation Economics:

H. JO ALBERS, B.S. Duke University 1985; M.E.S. Yale University 1987; Ph.D. University of California at Berkeley 1993; Professor of Economics 2014.

Wyoming Excellence Chair in Economics and McMurry Fellow:

DAVID C. FINNOFF, B.S. University of Wyoming 1994; Ph.D. 2001; Professor of Economics 2018, 2004.

Professors:

DAVID M. AADLAND, B.A. Augustana College 1991; M.S. University of Oregon 1996; Ph.D. 1997; Department Chairman, 2018; Associate Professor of Economics 2005, 2003.

TIMOTHY J. CONSIDINE, B.A. Loyola University 1975; M.S. Purdue University 1977; Ph.D. Cornell University 1981; Professor of Economics 2008.

Associate Professors:

ROBERT GODBY, B.S. Trent University 1990; M.A. University of Guelph 1992; Ph.D. McMaster University 1997; Center for Energy Economics and Public Policy Director, and Associate Professor of Economics 2003, 1997.

ALEXANDER JAMES, B.A California State University Chico, 2006; Ph.D. University of Wyoming, 2012; Associate Professor of Economics 2023.

THORSTEN M. JANUS, B.A. University of Copenhagen 2000; M.A. University of California at Santa Cruz 2003; Ph.D. 2006; Associate Professor of Economics 2012.

STEPHEN NEWBOLD, B.S. University of California, Davis 1995; M.S. 2002; Ph.D. 2002; Associate Professor of Economics 2018.

ALEXANDRE SKIBA, Specialist Diploma Rivne State Technical University 1999; M.S. Purdue University 2001; Ph.D. 2003; Associate Professor of Economics 2019, 2012.

LINDA THUNSTROM, M.S. Umea University, Sweden 1999; Ph.D. Umea University Sweden 2008; Associate Professor of Economics 2013.

KLAAS T. VAN 'T VELD, B.Sc. University of London 1992; M.S. University of California Berkeley 1993; Ph.D. 1997; Associate Professor of Economics 2010, 2004.

Assistant Professors:

NINO ABSHIDZE, B.A. Tbilisi State University 2011; M.A. International School of Economics 2013; M.A. North Carolina State University 2017; Ph.D. North Carolina State University 2019; Assistant Professor of Economics 2023.

Academic Professionals:

TYLER KJORSTAD, B.A. College of St. Scholastica 2009; M.S. University of Minnesota-Duluth 2012; M.S. University of Wyoming 2014, Director of Undergraduate Studies in Economics.

Professors Emeriti:

Thomas D. Crocker, Owen R. Phillips, Sherrill Shaffer

Economics Undergraduate Major

The science of efficient allocation, economics has much to offer students in the way of general and specialized preparation for positions in business, as well as government and the academic profession.

This program allows considerable flexibility for the student to specialize in interdisciplinary study. For example, the student can be advised on selecting upper level division courses for pre-law study, political economy, environmental and natural resources, women's studies, and international studies.

Students who intend to continue in graduate work should give special attention to courses in economic theory, statistics and mathematics. Those planning a career in mathematical economics or econometrics should consult the department head regarding the mathematics and statistics requirements in these fields of study.

Business Economics Major

All Business Economics majors must comply with requirements of the advanced business standing prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed.

This program allows students to explore a plethora of courses in the College of Business, giving them a diverse exposure to courses in accounting, finance, economics, marketing, management, and decision science. This allows an expanded view in other fields within the College of Business while focusing on economics.

These programs are designed to meet the requirements of AACSB International (the Association to Advance Collegiate Schools of Business), the University of Wyoming, and the College of Business.

50% of the business credit hours must be from the University of Wyoming.

A complete curriculum guide is available from the Peter M. & Paula Green Johnson Student Success Center in the College of Business.

Minimum requirements for Economics and Business Economics majors include:

Must hold a 2.500 cumulative grade point average in all economics courses at graduation, as well as a minimum 2.500 cumulative UW grade point average and a minimum 2.500 grade point average in all College of Business courses.

Minimum of 42 semester hours of 3000+ level courses. 30 of the 42 hours must be earned from UW.

Grade of C or above required for University Studies Program: FY, Cl, C2, and C3.

Grade of C or above required for common body of knowledge and major specific core courses.

A maximum of 6 hours at the 1/2000 level and 3/4000 level military science may be applied to degrees in the College of Business.

With approval of the department chair, students may substitute work in certain areas of accounting, agricultural economics, business administration, history, political science, finance, mathematics, statistics or law for 6 hours of 4000-level economics courses.

Graduate Study

The Department of Economics offers programs leading to a master of science degree in economics and the doctor of philosophy degree in economics.

Program Specific Admission Requirements

Economics Program

Admission to the economics graduate programs is granted to students who show high promise of success. Candidates of high promise generally have a cumulative grade point average of 3.000 or better (A=4.000) and score above 300 (for MS) and 310 (for PhD) combined on the verbal and quantitative sections of the GRE, with particular emphasis on strong quantitative and analytical scores. Such scores and grades do not guarantee admission.

The TOEFL is required for international students in accordance with University rules.

The Department of Economics requires that students have completed courses in intermediate micro and macro theory (ECON 3010, ECON 3020 or equivalent), statistics, and 6 hours of introductory calculus (MATH 2200, MATH 2205 or equivalent) for the MS program. A course in linear algebra (MATH 2050) is required for the PhD program.

Program Specific Degree Requirements

Master of Science in Economics

A minimum of 18 hours in economics is required; at least 15 of these must be at the 5000 level. A basic core sequence of ECON 5010 (macro), 5390 (math micro), 5530 (computational), 5230 (econometrics), and 5300 (game theory) is required, which completes 15 hours of 5000-level courses, which is required.

The student must complete 26 hours of coursework and 4 hours of ECON 5960 Thesis Research for the Plan A option. The student must complete 30 hours of coursework and a project for the Plan B option.

Students may take 4000-level courses for graduate credit up to 6 hours.

A maximum of 6 semester hours of graduate coursework not used toward any other degree from another institution may be applied to the M.S. economics program subject to regulations regarding transfer of credit listed in this bulletin and with the approval of the director of graduate studies.

At the beginning of the third semester, the student selects a major professor who directs the Plan A thesis or Plan B project. A graduate committee, nominated by the major professor, the student, and the department chair, conducts an oral examination of the student on the project or thesis and area he/she has studied in the program. A favorable report by the committee and approval by the Office of the Registrar complete the degree requirements.

The majority of students complete the M.S. degree within two years.

QuickStart Master of Science in Economics

UW undergraduates can complete the M.S. degree in just one year after completing their B.S. degree if they apply to the QuickStart M.S. program in their junior year. To be eligible, students must have (and maintain) a cumulative GPA of 3.200 or better as well as an Economics GPA of 3.200 or better. They are also required to take the GRE by the fall of their senior year and score above 300 combined on the verbal and quantitative sections combined. The GRE requirement can be waived by the Graduate Director or Director of Undergraduate Stuides. Two letters of reommendation from UW economics faculty members are also required. Admission to the QuickStart program allows students to double-count 6 credits of courses taken as an undergraduate towards both the B.S. and M.S. degrees, and reserve an additional 6 credits of courses taken as an undergraduate towards the M.S. degree alone. This then leaves only 18 credits to be taken after completion of the B.S. degree, which is feasible in just one year.

Doctoral Program

Doctor of Philosophy in Economics

The doctor of philosophy degree in the field of economics at the University of Wyoming requires a minimum of 42 hours of coursework. All coursework must be at the graduate (5000) level.

The program is designed to give the student a strong foundation in economic theory and the basic quantitative tools necessary for professional research. If students receive a grade lower than an **A** during their first year, they must take a comprehensive exam in that field (microeconomics and/or econometrics) during the summer to continue to the second year of the PhD program. Students who do not pass the comprehensive exam are dismissed from the program. They may continue to pursue an MS degree at the discretion of the Program Director and Department Chair. The program's qualifying exam takes the form of a research paper written during the second summer and defended to, and approved by, a faculty committee by early in the third year, with revisions and resubmission required by December. Students who pass the qualifying paper requirement receive an MS degree and move on in the PhD program, while students who fail this requirement are dismissed from both the MS and PhD programs.

During the third year, or no later than the first few weeks of the fourth year, a graduate committee nominated by the student's major professor and the director of graduate studies conducts an oral examination of the student. The purpose of the oral examination is to determine whether the student has formulated a workable dissertation project and has the necessary skills to complete it.

Following successful completion of the dissertation, and completion of a departmental requirement of 30 hours of dissertation research, the student presents an oral defense to the graduate committee. The doctor of philosophy degree is granted on recommendation of the committee and approval by the Office of the Registrar, providing all other requirements have been satisfactorily fulfilled.

Department of Ecosystem Science and Management

2013 Agriculture Building
(307) 766-2263
FAX: (307) 766-6403
Website: uwyo.edu/esm
Department Head: Timothy R. Collier

Professors:

JEFFREY L. BECK, B.S. Brigham Young University 1993; M.S. 1996; Ph.D. University of Idaho 2003; Professor of Rangeland Ecology and Watershed Management 2018, 2007.

THIJS KELLENERS, B.S. Wageningen University, The Netherlands 1988; M.S. 1993; Ph.D. 2001. Professor of Soil Science 2018, 2012.

SCOTT N. MILLER, B.S. Brown University 1991; M.S. University of Arizona 1995; Ph.D. 2002; Professor of Rangeland Ecology and Watershed Management 2017, 2002.

MELANIE MURPHY, B.S. University of Idaho 1998; M.S. 2001; Ph.D. Washington State University 2008; Professor of Rangeland Ecology and Watershed Management 2023, 2010.

VIRGINIA B. PAIGE, B.A. Colorado College 1984; M.S. University of Massachusetts 1992; Ph.D. University of Arizona 2000; Professor of Rangeland Ecology and Watershed Management 2019, 2004.

SCOTT R. SHAW, B.S. Michigan State University 1977; M.S. University of Maryland 1981; Ph.D. 1984; Professor of Entomology 1998, 1989.

Associate Professors:

DAVID CHRISTIANSON, B.S. Montana State University 2003; Ph.D. 2008; Associate Professor of Rangeland Ecology and Watershed Management 2021, 2019.

TIMOTHY R. COLLIER, B.S. University of California-Riverside 1987; Ph.D. University of California-Santa Barbara 1994; Associate Professor of Entomology 2008, 2002.

KRISTINA HUFFORD, B.A. University of California-Berkeley 1993; Ph.D. University of Georgia 2001; Associate Professor of Rangeland Ecology and Watershed Management 2017, 2010.

FABIAN NIPPGEN, M.S. Albert-Ludwigs University 2007; Ph.D. Montana State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2023, 2017.

J. DEREK SCASTA, B.S Texas A&M University 2004; M.S. 2008; Ph.D. Oklahoma State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2020, 2014.

LINDA VAN DIEPEN, B.S. Hogeschool IJselland, Deventer 1999; M.S. Wageningen University 2002; Ph.D. Michigan Technological University 2008; Associate Professor of Soil Microbiology 2021, 2015.

KAREN L. VAUGHAN, B.S. University of Delaware-Newark 2001; M.S. University of Maryland-College Park 2004; Ph.D. University of Idaho-Moscow 2008; Associate Professor of Pedology 2021, 2015.

Assistant Professors:

TUCKER FURNISS, B.S. University of Washington 2011; M.S. Utah State University 2016; Ph.D. 2021; Assistant Professor of Rangeland Ecology and Watershed Management 2023.

Lecturers:

BRIAN SEBADE, B.S. University of Wyoming 2008; M.S. 2010**;** Assistant Lecturer in Rangeland Ecology and Watershed Management 2023.

Academic Professionals:

SCOTT SCHELL, B.S. University of Wyoming 1991; M.S. 1994; Senior Extension Entomologist 2005, Associate Research Scientist 2009.

Adjunct Professors:

Justin Derner, Brenda Schladweiler, Gerald Schuman, Ramesh Sivanpillai, Kevin Wilcox

Professors Emeriti:

Ann Hild, Alexandre Latchininsky, David Legg, Larry Munn, Richard Olson, Katta Reddy, J. Daniel Rodgers, Quentin Skinner, Michael Smith, Peter Stahl, John A. Tanaka, George Vance, James Waggoner, James Wangberg, Thomas Wesche, Stephen Williams

Undergraduate Study

The Department of Ecosystem Science and Management offers a Bachelor of Science degree in Rangeland Ecology and Watershed Management. This degree can also be obtained as an affiliate degree in conjunction with the School of Environment and Natural Resources. Five minor degree programs are offered through the department: Forest Resources, Insect Biology, Rangeland Ecology and Watershed Management, Reclamation and Restoration Ecology, and Soil Science. Obtaining a minor to complement a B.S. major degree program provides credentials and knowledge that can expand career opportunities.

The degree programs reflect the department's diverse expertise in natural resource management and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration

ecology/reclamation of degraded land, wildlife habitat management, biocontrol/ integrated pest management, soil science and various types of environmental consulting) or other science careers.

Student Learning Outcomes

The goal of the Department of Ecosystem Science and Management is to provide students with comprehensive knowledge in several different areas in addition to their specific area of study. These expectations ensure that students may take these learned skills and successfully apply them in their post-graduate endeavors. Assessments in all areas are based on knowledge, skills, and attitude.

These areas include:

> Oral communication encompasses all the abilities necessary for effective expression and sharing of information, ideas, and feelings in a format including verbal and nonverbal symbols.
>
> Proficiency in written communication will ensure that students will be able to write for different audiences, from expressive writing to technical writing, using a range of sophistication in language.
>
> Professional behavior involves attaining high standards of behavior and appropriate attitudes, not only through acquiring knowledge and experience but a lifelong commitment to learning and achievement.
>
> Competency in critical thinking and problem-solving enables students to engage in reasonable, reflective thinking focused on deciding what to believe or do.
>
> Computer and information literacy ensures that students will be viewed as trainable and adaptable in a computerized work environment. Proficiency in this area also enables students to effectively access online information, and skillfully make use of it.

Knowledge of student skills in these different areas will aid the department in:

> Planning instructional strategies to address student strengths and weaknesses;
> Evaluating and describing overall student achievement;
> Counseling students for academic and career options; and
> Evaluating the effectiveness of instructional programs.

Graduate Study

The Department of Ecosystem Science and Management is an interdisciplinary department made up of five disciplines: entomology, rangeland ecology, soil sciences, reclamation/restoration, and watershed management. The department offers master of science and doctor of philosophy degrees in entomology, rangeland ecology and watershed management, and soil science. For the rangeland ecology and watershed management degrees, thesis and dissertation problems may be developed in aspects of range ecology, wildlife habitat, reclamation of disturbed lands, watershed management, utilization and improvement of rangelands, and many other facets of range and forest ecology management. For the entomology degrees, thesis and dissertation problems may be developed in many areas of basic and applied aspects of insect biology and ecology. For soil degrees, thesis and dissertation problems may be developed in many basic and applied aspects of soil science. The degree programs reflect the department's diverse expertise in natural resource and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/integrated pest management, soil science, and various types of environmental consulting) or other science careers. A graduate certificate in reclamation and restoration ecology may be obtained after completion of a B.S. degree or in conjunction with an M.S. or Ph.D. degree. Graduate students may also obtain interdisciplinary degrees in association with ESM

faculty advisors: M.S. in Water Resources in combination with a number of other degrees, Ph.D. in Hydrologic Sciences or Ph.D. in Ecology and Evolution.

Program Specific Admission Requirements

Admission is contingent upon a faculty member being willing to assume responsibility for mentoring the student as an advisor.

Applicants are encouraged to initiate correspondence with faculty who share similar research interests as part of the process of securing faculty advising commitment. Prospective students that have not identified a graduate advisor willing to mentor them will not be considered for admission.

In special circumstances, and with the faculty advisor's support, a student may be admitted on a provisional basis with continued enrollment dependent upon meeting performance requirements specified at the time of admission.

Program Specific Graduate Assistantship Information

Prospective students are encouraged to directly correspond about future opportunities for graduate assistantships with faculty that share similar research interests.

Graduate courses in the department are offered in entomology, rangeland ecology and watershed management, renewable resources, and soil science.

Environment and Natural Resources Affiliate Degrees

The Bachelor of Science degree in Rangeland Ecology and Watershed Management may also be obtained as an affiliate degree with the School of Environment and Natural Resources. In this case, the degree titles would be Environment and Natural Resources/Rangeland Ecology and Watershed Management. The additional coursework requirements necessary for obtaining an affiliate degree are described in the School of Environment and Natural Resources section of this publication.

Interdisciplinary Graduate Degrees

- Agricultural Economics/Water Resources, M.S. Interdisiplinary
- Ecology and Evolution, Ph.D.
- Geophysics/Water Resources, M.S. Interdisciplinary
- Hydrologic Sciences, Ph.D. (WRESE)
- Rangeland Ecology and Watershed Management/Water Resources, M.S. Interdisciplinary
- Soil Science/Water Resources, M.S. Interdisciplinary

Department of Electrical Engineering and Computer Science

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Professors:

STEVEN F. BARRETT, B.S. University of Nebraska 1979; M.E. University of Idaho 1986; Ph.D. University of Texas 1993; Professor of EECS 2011, 1999.

RUBEN GAMBOA, B.S. Angelo State University 1984; M.C.S. Texas A&M University 1986; Ph.D. The University of Texas 1999; Professor of EECS 2015, 2002.

JOHN M. HITCHCOCK, B.S. Iowa State University 1999; M.S. 2001; Ph.D. 2003; Professor of EECS 2015, 2003.

JOHN E. McINROY, B.S. University of Wyoming 1986; M.S. Rensselaer Polytechnic Institute 1988; Ph.D. 1991; Professor of EECS 2002, 1991.

SURESH S. MUKNAHALLIPATNA, B.E. University of Bangalore, India 1988; M.E. 1991; Ph.D. University of Wyoming 1995; Professor of EECS 2010, 1997.

CAMERON H.G. WRIGHT, B.S. Louisiana Tech University 1983; M.S. Purdue University 1988; Ph.D. University of Texas 1996; Professor of EECS 2016, 2003.

Associate Professors:

AMY BANIC, B.S. Duquesne University 2003; M.S. University of North Carolina 2005; Ph.D. 2008; Associate Professor of EECS 2012, 2010.

DONGLIANG DUAN, B.E. Huazhong University of Science and Technology 2006; M.S. University of Florida 2009; Ph.D. Colorado State University 2012; Associate Professor of EECS 2019, 2012.

LARS KOTTHOFF, Diplom (M.Sc.) University of Leipzig 2007; Ph.D. University of St. Andrews 2012; Associate Professor of EECS 2022, 2017.

EVA S. FERRE-PIKAL, B.S. University of Puerto Rico 1988; M.S. University of Michigan 1989; Ph.D. University of Colorado 1996; Associate Professor of EECS 2004, 1998.

JOHN F. O'BRIEN, B.S. California State Polytechnic University, Pomona 1991; M.S. University of Wyoming 1997; Ph.D. Rensselaer Polytechnic Institute 2001; Associate Professor of EECS 2009, 2003.

JON M. PIKAL, B.S. Purdue University 1988; M.S. University of Colorado 1993; Ph.D. Colorado State University 1999; Associate Professor of EECS 2005, 1999.

Assistant Professors:

CHAO JIANG, B.E. Chongqing University 2009; Ph.D. Stevens Institute of Technology 2019; Assistant Professor of EECS 2019.

DUONG NGUYEN, B.S. Hanoi University of Science and Technology 2006; M.S. Purdue University 2012; Ph.D. Michigan State University 2021. Assistant Professor of EECS 2022.

NGA NGUYEN, B.S. Hanoi University of Science and Technology 2005; M.S. 2007; Ph.D. Michigan State University 2017; Assistant Professor of EECS 2018. Assistant Professor of EECS 2022.

SHIVANAND SHESHAPPANAVAR,B.E. Visvesvaraya Tech. University; M.T. Visvesvaraya Tech; M.S. Syracuse University, Ph.D. U. Delaware 2023; Assistant Professor of EECS 2023.

DIKSHA SHUKLA, B.S. Kanpur University 2008; M.C.A. Jawaharlal Nehru University 2011; M.S. Louisiana Tech University 2014; Ph.D. Syracuse University 2019; Assistant Professor of EECS 2019. Assistant Professor of EECS 2022.

ZEJIAN ZHOU, B.S. 2016; Stevens Institute of Technology; Ph.D. Stevens Institute of Technology 2021. Assistant Professor of EECS 2022.

Senior Lecturers:

JAMES S. WARD, B.S. University of Wyoming 1993; M.S. 1997; Senior Lecturer of EECS 2011, 2000.

Assistant Lecturers:

LAURA OLER, B.S. Brigham Young U. , M.S. Massachusetts Institute of Technology , Assistant Lecturer of EECS 2023

DANIEL RADOSEVICH, B.S. University of Wyoming 2018; Assistant Lecturer of EECS 2022.

Adjunct Faculty:

Robin Hill, Elena Oggero, Guido Pagnacco

Professors Emeriti:

Thomas A. Bailey, Jr., Mark Balas, Henry R. Bauer III, James L. Caldwell, Christos T. Constantinides, John R. Cowles, Jerry J. Cupal, Clifford D. Ferris, Jerry Hamann, Raymond G. Jacquot, Robert F. Kubichek, Stanislaw Legowski, John Pierre, John Rowland, John W. Steadman, A.H.M. Sadrul Ula, David Whitman

Lecturers Emeritus:

Jeri R. Hanly

OVERVIEW

The Department of Electrical Engineering and Computer Science is home to three undergraduate ABET accredited programs (Computer Science, Computer Engineering and Electrical Engineering), and M.S. and Ph.D. programs in

Computer Science and Electrical Engineering. Below we describe each of these programs; first the undergraduate programs and then the graduate programs.

UNDERGRADUATE PROGRAMS

The three undergraduate programs are ABET accredited and lead to a B.S. in Computer Science, Computer Engineering or Electrical Engineering. The first years of the various programs overlap significantly to allow students with an interest in computing or electrical engineering to explore the areas before identifying a specialty.

COMPUTER SCIENCE

A Bachelor of Science degree (B.S.) in Computer Science prepares students for careers in any industry or to continue with graduate study in Computer Science and many other fields. Computer science students learn to approach problems from a computational (algorithmic) point of view, and this approach to problem solving often leads to better and more general solutions. Software systems, information technology, and large-scale data applications are core technologies in every area, and the applications continue to grow with software and information systems becoming more embedded in everyday life. These systems are essential tools in science and engineering, for business and finance, government, communications, medicine, and entertainment. Software systems make the world go round and smart devices, such as phones, tablets, glasses, wearable devices, medical implants are ubiquitous. As a result, computer science has grown from a specialized field to an independent, broadly based area that studies all aspects of the use and understanding of software systems, information, and computational processes. Students studying B.S. in Computer Science at the University of Wyoming have the option to focus their studies by taking a concentration in Cybersecurity. The Cybersecurity certificate captures core technical cyber security foundations and principles, from databases and networks to advanced threat detection and mitigation. This B.S. program is ABET accredited.

Program Objectives for Computer Science program

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Program Learning Outcomes for Computer Science program

The program of study in Computer Science enables students to achieve, by the time of graduation:

1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

ELECTRICAL ENGINEERING

This curriculum has been designed to provide the depth of understanding necessary to meet challenges of changing technology while being flexible enough to allow students to pursue in-depth study in at least one area of electrical engineering. To attain this, students must understand mathematics and the basic engineering sciences. The fundamental electrical engineering education consists of courses in circuits, networks, electromagnetics, electronics, digital systems, communications, controls, and energy conversion. Selection of elective courses, in consultation with the academic adviser, enables students to specialize in the above-mentioned areas, robotics, microcircuits, microprocessors and high frequency electronics.

Laboratory work associated with electrical engineering courses is an important part of the curricula. This work helps students gain experience in applying the theoretical knowledge they acquire to practical engineering problems. Engineering design is a key component of the curriculum that concludes with significant design experience in the senior year. The program also includes the option listed below.

F.M. Long Bioengineering Option. Named in honor of UW Professor Francis M. Long, this area offers excellent opportunities for those interested in applying the techniques of the electronic engineer to problems of environmental science, biology, and medicine. Employment opportunities exist in state and federal agencies, industry, and medical institutions. Career placement includes such areas as environmental monitoring, design and development of biological and medical instrumentation and clinical engineering. With minor modifications, the curriculum shown may be used as preparation for entrance to medical or dental school.

COMPUTER ENGINEERING

Computer Engineering is a blend of Computer Science and Electrical Engineering. Computer Engineering students receive training that allows them to design complex computer systems and embed them in custom applications such as robots, spacecraft, automobiles, etc. A typical system may interface with a sensor to measure the world, then decide how to best use the information to achieve goals and eventually turn on actuators which perform the needed task. They also develop computer vision systems, high performance computers and software, and the Internet of Things. They take many of the same required courses as Electrical Engineers but fill in their electives with computer specific courses. Graduates can design electric circuits, understand network hardware, design computer systems, and write the software inside those systems. Compared to Electrical Engineers, Computer Engineers have less breadth of knowledge in Electrical Engineering but more depth in software and computer hardware. Compared to Computer Scientists, Computer Engineers know much more about hardware and signal/system theory. Computer Engineers sometimes also major in either Electrical Engineering or Computer Science to get two degrees.

Concurrent Major and Minor

The department offers a concurrent major and minor in both the electrical engineering and computer engineering programs. Consult the department office for a current detailed list of requirements.

Educational Objectives for Electrical and Computer Engineering Programs

Graduates of the University of Wyoming Electrical and Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Student Outcomes Electrical and Computer Engineering Programs

All Electrical (Computer) Engineering graduates shall demonstrate:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Grade Policy

Electrical and computer engineering majors must achieve a grade of C (2.000) or better on courses that are prerequisites for courses within the student's course of study. Students must also achieve a grade of C (2.000) or better in all required mathematics courses.

Graduate Study - Computer Science

The Department offers graduate work leading to the Master of Science degree in computer science and the Doctor of Philosophy in computer science. The Department also offers a graduate minor in computer science.

Program Specific Admission Requirement

Applicants for a graduate degree in computer science are expected to have completed undergraduate courses in Algorithms and Data Structures (COSC 3020 equivalent), Theory of Computing (COSC 4100 or COSC 4200 equivalent), Operating Systems (COSC 4740 equivalent), and Programming languages or Compilers (COSC 4780 or COSC 4785 equivalent). Applicants to the doctoral program must have completed a bachelor's or master's degree in computer science or a closely related discipline at an accredited university or college.

The Graduate Record Examination (GRE) is encourage for all applicants. Our strongest students tend to have scores above these minimums, with quantitative scores often around the 90th percentile or higher.

Students whose native language is not English must also complete the Test of English as a Foreign Language (TOEFL) with a score of at least 550 on the paper based TOEFL; 213 on the computerized test including a 58 or better in section 1-Reading; 80 for the Internet based TOEFL (iBT) including a score of 23 or better in section 1-Reading or the

International English Language Testing System (IELTS) test with a 6.5 score or better. Students may also use the Duolingo exam, with a minimum of 105 overall and 125 in the Literacy section.

You must submit to the online application system contact information for three references that can evaluate your potential for graduate study in computer science. If you wish to pursue a Ph.D., the letters should address your ability to pursue quality original research. Letters should also evaluate your oral and written communication skills.

If you meet the minimum criteria and would like to formally apply for admission you will also need to submit the following information during the completion of your application via the application portal:

Copies of transcripts from all colleges and universities (minimum GPA or equivalent 3.00 on a scale of 4.00) for all degrees attained. International applicants must submit copies of individual semester transcripts, consolidated transcripts will not be accepted.

Copy of GRE scores a minimum percentile of 40% on verbal and 65% on quantitative portions of the exam. The majority of admitted students tend to have scores above these minimums.

Contact information for three recommendation letters (applicants should follow up with recommenders to ensure this requirement is fulfilled; applications will not be processed further until all recommendations have been received).

International students will also need to submit a copy of TOEFL scores, IELTS scores, or Duolingo scores.

High performing undergraduates in computer science can elect for Quick Start admission to the graduate program, allowing the sharing of up to six credit hours of 5000-level coursework toward the completion of both the B.S. and the graduate degree programs.

Graduate Program in Electrical Engineering

The department offers programs of study leading to the Master of Science and Doctor of Philosophy degrees in electrical engineering. Study programs are individually planned to students' interests in both course work and research. The areas of major concentration at the graduate level are:

Bioengineering

Computer Vision

Controls

Electrical Energy Systems Electronic Systems and Devices Robotics

Machine Learning

Robotics

Signal Processing and Computer Networks

The department also offers a combined B.S./M.S. program for exceptional students wishing to obtain both degrees in a shorter period.

Program Specific Admission Requirements

A complete application must include:

Statement of purpose
Official transcripts from all post-secondary institutions attended
TOEFL total of 79 iBT or IELTS total 6.5.

Additionally, all international students who are state-funded teaching assistantships or any international student with teaching responsibilities are required to complete an Oral Proficiency Interview (OPI). Students will need to follow the recommendations to improve their English skills. Students on state-funding who fail to follow the recommendations or do not meet the minimum proficiency by the end of their first semester will not be able to receive any state-funding until they have demonstrated proficiency.

Department of Energy and Petroleum Engineering

4015 Engineering Building, (307) 766-4258
Web site: www.uwyo.edu/petroleum
Department Head: Dennis Coon, Ph.D., Interim

Professors:

HERTANTO ADIDHARMA, B.Sc. Institute of Technology, Surabaya 1987; Ph.D. Louisiana State University 1999; Professor of Chemical Engineering 2019.

MAOHONG FAN, B.S. Wuhan University of Science and Engineering 1984; M.S. Beijing University of Science and Tech. 1992; Ph.D. Chinese Academy of Sciences 1997; Ph.D. Iowa State University 2000; Ph.D. Osaka University 2003; Professor of Chemical Engineering 2014.

KHALED A.M. GASEM, B.Sc. University of California at Berkley 1976; M.Sc. Colorado School of Mines 1979; Ph.D. Oklahoma State University 1986; Professor of Chemical Engineering 2014.

LAMIA GOUAL, B.Sc. Ecole Nationale Polytechnique 1993; M.Sc. Imperial College, London 1998; Ph.D. 2003; Professor of Petroleum Engineering 2021.

MOHAMMAD PIRI, B.Sc. Azad University, Arak 1995; M.Sc. Azad University, Tehran 1998; M.Sc. Imperial College, London 2000; Ph.D. 2004; Professor of Petroleum Engineering 2018.

Associate Professors:

PEJMAN TAHMASEBI, B.S. Sahand University of Technology 2007; M.Sc. Amirkabir University 2009; Ph.D. University of Southern California/Amirkabir University 2012; Associate Professor of Petroleum Engineering 2021.

MORTEZA DEJAM, B.Sc. Petroleum University of Technology 2007; M.Sc. Sharif University of Technology 2009; Ph.D. University of Calgary 2016; Associate Professor of Petroleum Engineering 2022.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of Wyoming 2013; Associate Professor of Petroleum Engineering 2022.

Academic Professionals:

TAWFIK ELSHEHABI, B.Sc. Suez Canal University 2003; M.Sc. 2007; Ph.D. West Virginia University 2017; Senior Lecturer of Petroleum Engineering 2019.

Instructional Professors:

REZA TAHERI, B.Sc. Amirkabir University 1997; M.S. University of Twente, Netherlands 2001; Ph.D. Curtin University 2008; Assistant Instructional Professor of Petroleum Engineering 2020.

Professors of Practice:

DOUGLAS CUTHBERTSON, B.S. University of Wyoming 1985; Professor of Practice in Petroleum Engineering 2016.

BRIAN TOELLE, B.S. Texas A&M University 1978; M.S. Austin State University 1981; Ph.D. West Virginia University 2013; Professor of Practice in Petroleum Engineering 2015.

Professors Emeriti:

Jack Evers
H. Gordon Harris
Norman R. Morrow
Mrityunjai P. Sharma
Brian Towler

Petroleum Engineering trains students for Wyoming's largest industries, the production of crude oil and gas. With the recognition of the state's and nation's vast reserves of natural gas, the curriculum emphasizes the production and processing of this important resource. Because of American predominance in petroleum technology, career opportunities are available throughout most of the world.

The curriculum in petroleum engineering is based upon sound preparation in fundamental sciences, mathematics, physics, chemistry, and geology. The essentials of engineering are added to this foundation: computer programming, statics, dynamics, materials science, hydraulics, and thermodynamics. To aid in developing individuals' social potential and broaden their educational background, an integrated program in humanities and social sciences is included in the curriculum. Petroleum engineering courses, which are primarily concerned with application of previously acquired knowledge to problems of the oil and gas industry, are concentrated in the junior and senior years.

Petroleum Engineering degree candidates must meet the academic requirements of the college and must have a GPA of 2.000 or greater in Petroleum Engineering (PETE) courses attempted at UW that are applied toward graduation for the B.S. degree from the department. For approved electives, students must have prior approval of their advisor and department head. Elective courses must be chosen from a list provided by the department. Students must complete a minimum of 48 upper division (junior/senior) or graduate-level credit hours for this program.

Program Vision

As a highly respected community of scholars and practitioners, we are committed to providing outstanding petroleum engineering education, conducting internationally recognized research in key focus areas, and improving the well-being of the people of Wyoming and the world through education, technical innovation and economic development.

Program Mission

Provide outstanding, contemporary, ABET-accredited education in petroleum engineering to highly qualified undergraduates who will serve as an economic resource for Wyoming and the world.

Provide excellent, research-based graduate educations at the master's and doctoral levels in petroleum engineering to top students who will drive technical and economic innovation for Wyoming and the world.

Conduct internationally recognized research in key focus areas that leads to new technologies while also enhancing economic development for Wyoming and the world.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum Engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.
- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Undergraduate "Major Only" Courses

Upper division PETE core courses are restricted to petroleum engineering majors only.

Technical Electives Policy

The technical electives in the petroleum engineering curriculum can be used to complete a curriculum emphasis option or a minor. The number of credits of upper division courses must be satisfied, therefore, 13 elective credits must be 3000-level courses or higher.

Note: Technical Electives must be selected with your advisor's documented approval.

Transfer Credit Limit

To graduate with a degree in Petroleum Engineering from UW, students must successfully complete at least 20 credit hours of required PETE courses at UW.

1. Once a student has transferred to UW's Department of Petroleum Engineering from another institution, they may transfer no more than 9 additional credits from other institutions.
2. Non-transfer students may transfer up to 18 credits from other institutions.

Repeating a Course

Students who fail a PETE class three times can no longer enroll in that class.

Academic Suspension

Students who have been academically suspended from UW twice are no longer eligible to enroll in PETE courses.

Curriculum Emphases

The Department of Petroleum Engineering has established curriculum emphases that could shape your interest further or acquire useful transferable skills. A curriculum emphasis is not a minor or concentration and will not be stated on your diploma. If you choose to follow a curriculum emphasis option, you should discuss it with your academic advisor so they can assist you in planning your courses.

Petroleum Engineering offers the following curriculum emphasis options:

- Unconventional Reservoirs
- Chemical Engineering
- Mechanical Engineering
- Graduate School Preparation

BS/MS Quick Start Program

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during the first or second semester of their junior year or *before* starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

1. Qualified students may receive provisional admission to the Petroleum Engineering graduate program by submitting a quick start application through the online graduate application system. This provisional admission will permit students to make their long-term educational plans earlier in their studies and before graduating the B.S. program, thus providing enhanced opportunities for course selection and involvement in research.
2. Students in the program may apply up to 6 credit hours of graduate-level courses toward both the B.S. and M.S. degree programs. By successfully completing up to 6 credit hours of graduate classes during their senior

year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergraduate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Study

The Department of Petroleum Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in petroleum engineering. The M.S. degree is offered with Plan A and Plan B options.

In addition, the Department offers an M.B.A./M.S. in Petroleum Engineering Dual Degree Program, in conjunction with the College of Business M.B.A. Program. Students pursuing this option must apply to and be offered admission from both programs.

Admission Process and Requirements

Graduate admission is open to students with at least a B.S. degree in petroleum engineering or closely related field and who meet the minimum requirements as shown below. Please note that test scores must be dated within the previous two years to be considered valid.

- A GPA of 3.000, or equivalent;
- A GRE score;
- A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) **or** an IELTS score of 6.5 in each category for international applicants. We are also accepting the DuoLingo exam with a minimum score of 110 required.

Applications must include the following documents uploaded with the online application:

1. Complete official transcripts of all prior college-level coursework,
2. Current resume or curriculum vitae,
3. Recommendations from at least three academic or professional references,
4. A statement of purpose, and
5. Unofficial test score certificates for both GRE and English proficiency exams.

Applications will not be reviewed or accepted until all required documents have been submitted.

The deadlines to submit applications are February 1 each year (to be considered for Fall semester), and September 15 each year (to be considered for Spring semester).

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/graduate/prospective/index.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Courses of Study

Incoming graduate students, not preselected by a faculty member, must meet with Petroleum faculty members to obtain information regarding research areas and current availability. The student must formally request a Petroleum faculty member of their choosing to oversee their degree study program.

Masters Program

1. All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following courses:

Required Courses **Hrs.**
PETE 5355.....3
PETE 5890.....2

At least three Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....12
PETE 5960.....4
Total Credits 30

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....14
PETE 5970.....2
Total Credits 30

2. All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following courses:

Required Courses **Hrs.**
PETE 5055 3
PETE 5340 3
PETE 5355 3
PETE 5715 3
PETE 5890 2

At least four Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....7
GEOL 5190.....3
PETE 5960.....4
Total Credits 40

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....7
GEOL 5190.....3

PETE 5970.....4

Total Credits 40

Dual Degree Program - M.B.A./M.S. degree in Petroleum Engineering

3. All Dual Degree M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses **Hrs.**
PETE 5355.....3
PETE 5890.....2

At least three Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4

Total Credits 30

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2

Total Credits 30

4. All Dual Degree students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses **Hrs.**
PETE 5055 3
PETE 5340 3
PETE 5355 3
PETE 5715 3
PETE 5890 2

At least four Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:

4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4

Total Credits 42

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2

Total Credits 42

Note: For a student with a B.S. in another discipline, upon acceptance into the M.S. program, the Graduate Program Committee will develop a plan of study with the consent of the advisor.

Doctoral Program

1. All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least four Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....18

Research
PETE 5980..... 30

Total Credits 72

2. All Petroleum Ph.D. students with an B.S. in Other Majors must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least five Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3

PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....15

Research
PETE 5980..... 30
Total Credits 72

**Transferable from MS degree if applicable.*

***Up to 14 credits of electives transferable from MS degree if applicable.*

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890, Petroleum Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by any source other than state funds will work with their supervisor or faculty mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and
- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate

literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Department of English

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/english
Department Chair: Kelly Kinney

Professors:

SUSAN ARONSTEIN, B.A. Seattle Pacific University 1980; M.Sc. Edinburgh University 1984; Ph.D. Stanford University 1987; Professor of English 2006, 1987.

KENT G. DRUMMOND, B.A. Stanford University 1980; M.B.A. Northwestern University 1982; Ph.D. University of Texas, Austin 1990; Professor of English 2019, 1990.

CAROLINE McCRACKEN-FLESHER, M.A. University of Edinburgh 1980; M.A. Brown University 1986; Ph.D. 1989; Professor of English 2004, 1989.

TRACEY OWENS PATTON, M.A. Colorado State University 1996; Ph.D. University of Utah 2000; Professor of English 2022.

Associate Professors:

CAROLYN ANDERSON, B.A. Auckland University 1981; M.A. 1984; Ph.D. Stanford University 1992; Associate Professor of English 2001, 1993.

MICHAEL EDSON, B.A. Virginia Tech University 2003; M.A. University of Delaware 2005; Ph.D. 2011; Associate Professor of English 2020, 2014.

SCOTT HENKEL, B.A. Western Michigan University 1997; M.A. Ohio University 2000; Ph.D. Michigan State University 2007; Associate Professor of English 2018, 2015.

KELLY KINNEY, B.A. Purdue University 1992; M.A. University of Nebraska-Omaha 1996; Ph.D. Ohio University 2005; Associate Professor of English 2015.

MICHAEL KNIEVEL, B.A. Creighton University 1995; M.A. 1997; Ph.D. Texas Tech University 2002; Associate Professor of English and Co-Director of Writing Program 2022, 2009, 2002.

CLIFFORD J. MARKS, A.B. University of Michigan 1983; M.A. State University of New York, Buffalo 1988; Ph.D. 1992; Associate Professor of English 2000, 1993.

JULIA OBERT, B.A. University of Western Ontario 2004; M.A. University of British Columbia 2006; Ph.D. University of California, Irvine 2011; Associate Professor of English 2016, 2011.

PETER PAROLIN, B.A. University of British Columbia 1988; M.A. University of Pennsylvania 1991; Ph.D. 1997; Associate Professor of English 2003, 1997.

JASON THOMPSON, B.A. Pacific Lutheran University 1996; MFA University of Arizona 2000; Ph.D. 2008; Associate Professor of English 2015, 2008.

ARIELLE ZIBRAK, B.A. University of Rochester 2003; M.A. Boston University 2007; Ph.D. 2013; Assistant Professor of English 2020, 2014.

NANCY SMALL, B.A. Texas A&M University 1992; M.A. 1994; Ph.D. Texas Tech University 2014; Associate Professor of English 2022, 2017.

Senior Lecturers:

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

RICK FISHER, B.A. University of Wyoming 2002; M.A. 2006; Ph.D. 2018; Senior Lecturer in English 2020, 2015, 2011.

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

JOYCE STEWART, B.A. Felician College 1994; M.A. Creighton University 1998; Senior Lecturer in English 2018, 2008.

Assistant Lecturers:

ASHLEY M. BURCHETT, B.A. The College at Southeastern 2016; M.A. North Carolina State University 2018; Assistant Lecturer in English and Co-Director of Writing Program 2022, 2019.

ALLISON GERNANT, B.A. Grinnell College 1996; M.A. University of Wyoming 2005; Assistant Lecturer in English & LeaRN 2015.

Study in the English department today emphasizes composition, literature, and rhetoric, creative and expository writing, and the nature and workings of language. Students in the department's programs can learn to read with pleasure and understanding, to write with grace, clarity and force, and to think with greater depth and breadth. With these accomplishments, students are prepared for lives and work in which their power to understand, read, write and communicate will serve themselves and others, some specifically in careers in writing or teaching, some in professions of law, medicine, administration or almost any other field.

Composition, Literature, and Rhetoric are traditions that reach back through the centuries, but these intellectual traditions are continually growing and changing. New theories of language help us reshape understandings of ancient traditions and enhance our lives as critical readers and writers and creative human beings.

Assessment of English Undergraduate Learning

Through an active and ongoing assessment of our program, we have identified the following outcomes that are expected of each student graduating with a Bachelor of Arts in English. We will continue to assess our curriculum to ensure these outcomes are being met:

UW students graduating with a Bachelor of Arts in English will have demonstrated an ability to:

1. Read, interpret, and write about a diverse range of texts in English, for example literature, film, digital media, and popular culture;
2. Understand those texts analytically and critically;
3. Understand those texts on the basis of careful close reading;
4. Understand those texts through past and current literary and rhetorical theory;
5. Understand that those texts are culturally constructed in time, place, and tradition;
6. Understand how those texts inform culture;
7. Participate in the critical and cultural discourses of English;
8. Participate clearly and appropriately through multiple spoken and written forms.

English Honors Program

Requires a 3.500 GPA and a senior honors paper and defense. See the English department web site for information.

Teacher Certification

Students seeking the B.A. in English may also be certified for public school teaching by completing additional requirements set forth by the College of Education, via a concurrent major in English and English Education.

Graduate Study

The M.A. graduate program in English offers three concentrations leading to the master of arts degree: Literary Studies, Composition and Rhetoric, and Public Humanities.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of English requires that students demonstrate by means of an official transcript that they have a solid undergraduate record with course work in English. That said, the department welcomes degrees in English or other disciplines from four-year colleges or universities.

Depending on their undergraduate preparation, some successful applicants may be required to take additional or specific courses toward the English master's degree.

Candidates must submit GRE general test scores, a writing sample, a 500-word statement of purpose, a CV/resume, and three letters of recommendation.

English offers both a campus-based M.A. degree and a low-residency/online M.A. degree. Students should consult the M.A. web site or contact the department for specific admission information and deadlines for both M.A. programs.

Program Specific Graduate Assistantships

Teaching assistantships are available to qualified applicants in the campus-based M.A. degree. Full assistantships carry an annual stipend and a remission of full-time tuition and fees, and require the teaching of one course per term.

Each fall the department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia for all graduate assistants. Each assistant is assigned an experienced teacher in the department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Creative Writing Program

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/creativewriting/
Program Director: Val Pexton

Professors:

ALYSON HAGY, B.A. Williams College 1982; M.F.A. University of Michigan 1985; Professor of Creative Writing 2008, 1996.

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2015.

FRIEDA E. KNOBLOCH, B.A. Cornell University 1985; Ph.D. University of Minnesota 1994; Professor of American Studies and Creative Writing 2014, 1997.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

KATE NORTHROP, B.A. University of Pennsylvania 1991; M.F.A. University of Iowa 1995; Associate Professor of Creative Writing 2008.

Senior Lecturers:

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

Creative Writing

We are writers. Our principles follow from what claims us as writers as we guide our students in the creation of their own work. We offer a commitment to art and to the development of community through art. We offer an immersion in making, a chance to discover, to create serious work without pretense, to collaborate, to shake off assumptions and anxieties.

To be first and foremost concerned with making does not mean we take refuge from the world. It means we begin by supporting the deepest, most intelligent engagement with what matters to us as writers. A critical distance from the literary and academic marketplaces allows us to engage with them in a more thoughtful manner once we have found our authentic calling-that which we are truly compelled to explore. Our values will never map perfectly onto the concerns of institutions, and that is good. We strive to create the finest conditions for the making of art when we remain in an eccentric orbit of our own, one that overlaps with the other orbits, yet remains, as much as possible, guided by our own principles which include:

Making: we require the serious, committed, ongoing process of writing and revision.

Range: we cultivate a diversity of taste, form, genre, experience, and background, as well as an open understanding of what might constitute professional accomplishment.

Flexibility: we invite our writers to pursue their own creative and intellectual goals, to tailor the program in individual ways.

Curiosity: we urge creative and intellectual roaming: cross-genre work, interdisciplinary study, the movement across what are usually understood as boundaries; we encourage students to imagine possibilities beyond what is already imagined for them by the program and the university.

Community: we foster an environment that sustains listening, investment in the work of others, collaboration, rigorous expectation, generosity and, at the same time, respect for solitude.

Integrity: we challenge students to engage in deep investigation, to find their intent as a writer and to commit to it fully.

Graduate Study

The Creative Writing Master of Fine Arts offers two areas of concentration: fiction and creative non-fiction.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this Catalog, the Creative Writing M.F.A. Program requires that students demonstrate by means of an official transcript that they have a solid undergraduate record. The M.F.A.

program welcomes degrees in any discipline from four-year colleges or universities. Candidates submit three letters of recommendation, a writing sample consisting of no more than 25 pages of prose, a 500-word statement of purpose and a vita. Students should consult the M.F.A. web site or contact the department for specific admission information and deadlines.

Program Specific Graduate Assistantships

We are a fully-funded program, meaning that we accept only as many students as we can support with graduate assistantships. Full assistantships carry an annual stipend and tuition waiver, and require the teaching of one section per semester, or equivalent work assignment. M.F.A. students are expected to teach freshman English.

Each fall, the English department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia. Each graduate assistant is assigned to an experienced teacher in the English department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Department of Family and Consumer Sciences

251 Agriculture Building, (307) 766-4145
FAX: (307) 766-5686
Web site: www.uwyo.edu/fcs
Department Head: Dr. Jill Keith

Associate Professors:

JENNIFER HARMON, B.S. Illinois State University 2009; M.S. The Ohio State University 2013; Ph.D. 2014; Associate Professor, Design, Merchandising, and Textiles 2021, 2015.

ERIN IRICK, B.S. Kansas State University 2000; M.S. 2006; Ph.D. Oklahoma State University 2013; Associate Professor, Design, Merchandising, and Textiles 2019, 2013.

JILL KEITH, B.S. North Dakota State University 2000; M.S. Capella University 2009; Ph.D. North Dakota State University 2016; Associate Professor, Human Nutrition and Food/Dietetics 2022, 2016.

ALYSSA McELWAIN, B.A. Kansas State University 2006; M.S. Purdue University 2008; Ph.D. Auburn University 2015; Associate Professor, Human Development and Family Sciences 2021, 2015.

BERNARD STEINMAN, B.A. University of Washington 1991; M.S. Mississippi State University 2004; Ph.D. University of Southern California 2010; Associate Professor, Human Development and Family Sciences 2022, 2015.

CHRISTINE WADE, B.S. Willamette University 2001; M.S. University of Wyoming 2005; Ph.D. 2008; Associate Professor, Human Development and Family Sciences 2015, 2008

Assistant Professors:

GRACE SHEARRER, B.S. University of Wyoming 2012; Ph.D. University of Texas at Austin 2016. Assistant Professor, Human Nutrition and Food/Dietetics 2020.

Academic Professionals:

JENNA CHALCRAFT, B.S 2013 University of Wyoming; M.S. 2019; Assistant Lecturer/Program Director Human Nutrition and Food/Dietetics 2023

SARAH LEE, B.A. and M.S. University of Wyoming 1981; 1996; Assistant Lecturer, Human Development and Family Sciences 2020.

TREVA SPROUT AHRENHOLTZ, B.S. 1993, 1997 University of Wyoming; M.S. 1995; Senior Lecturer, Design, Merchandising, and Textiles 2013, 2005.

Professor Emeritus:

Donna Brown, Bruce Cameron, Saul Feinman, Michael Liebman, Judith A. Powell, Rhoda Schantz, Virginia Vincenti, Mary Kay Wardlaw, Randolph R. Weigel, Karen Williams

Department Information

Our mission is to enhance the physical, social, and economic well-being of individuals, families, and communities, emphasizing healthy and sustainable living across the lifespan. We fulfill our mission through instructional, research, and outreach/extension efforts that challenge, motivate, and inspire.

Family and Consumer Sciences integrates the fundamental components of human life - food, shelter, clothing, human relationships, and family - with larger societal systems. Through majors in design, merchandising and textiles; human food and nutrition; and human development and family sciences, our department prepares learners to meet the opportunities and challenges of today's complex world.

All students pursuing a Bachelor of Science degree in the department of Family and Consumer Sciences are required to complete a minimum of 120 credit hours that include a) University Studies requirements (USP); b) departmental core curriculum; and c) courses in one of the following majors: Design, Merchandising and Textiles; Human Development and Family Sciences; or Human Nutrition and Food. Majors in Design, Merchandising and Textiles must select one of three concentrations: apparel design and product development; interior design, or merchandising. Majors in Human Development and Family Sciences may select a concentration in family and consumer sciences teacher certification or professional child development. Human Nutrition and Food majors may choose to apply to the Didactic Program in Nutrition and Dietetics.

Family and Consumer Sciences Student Learning Outcomes

Students graduating with a degree from the Department of Family and Consumer Sciences will be proficient in their major as well as be able to effectively communicate (both written and orally), possess intellectual skills (such as critical and creative thinking and problem solving), and demonstrate appropriate levels of professionalism.

Family and Consumer Sciences Core Requirements

A core curriculum is required of all majors in the Department of Family and Consumer Sciences. This requirement is based on a common body of knowledge in family and consumer sciences which contains concepts relevant to all majors and concentrations.

The Family and Consumer Sciences Core consists of the following requirements.

All majors must complete the following course:

- FCSC 2200 - Professionalism and Communication in FCSC

Students must also select one course from each of the following categories outside their major, in consultation with their advisor:

Design, Merchandising and Textiles

The Design, Merchandising, and Textiles (DMT) program emphasizes the study of historic clothing and textiles, merchandising of textile and apparel products, retail business sector applications, and various aspects of apparel design, including both artistic and functional design options

Human Development and Family Sciences

The Human Development and Family Sciences (HDFS) program is designed for professionals currently working in human services fields who would like further education and serve individuals and families across the lifespan.

Human Nutrition and Food

The Human Nutrition and Food Science (HNF) program enables students to pursue studies in areas such as human nutrition and metabolism, food product development, community nutrition, food microbiology, sports nutrition, and disease prevention.

Department of Geology and Geophysics

Geography Program

122 Geology Building, (307) 766-3386
Web site: www.uwyo.edu/geography
Program Director: Mark T. Clementz

Professor Emeritus:

John L. Allen, William L. Baker, Ronald E. Beiswenger, Thomas Buchanan, Deborah D. Paulson, Gerald Webster

Faculty and Staff Affiliates:

Professors

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.
THOMAS A. MINCKLEY, B.S. Northern Arizona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.
JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003;

Professor of Geology 2019, 2005.
BRYAN N. SHUMAN, B.A. Colorado College1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

Associate Professors

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.
NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Associate Professor of Geography and International Studies 2021, 2016.
ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Associate Professor of Geography and International Studies 2021, 2016.

The Geography Program is comprised of faculty from across the University of Wyoming campus with interests and expertise in geography and resource management. The program is transdisciplinary with a focus upon the following:

1.The origin and nature of the physical and cultural environment, how the physical environment and its natural resources form, and how the environment and natural resources affect the quality of life.
2.The ways in which people and institutions affect natural resources and the environment.
3.The ways in which human institutions (e.g. political, economic, social) interact to produce diverse human landscapes.

Learning

The Geography Program has identified four fundamental goals of geography to emphasize in its undergraduate curriculum. These four goals are at the intersection of topically important areas in the discipline of geography. We continue to evaluate student learning in our program to insure our curriculum addresses these fundamental goals as effectively as possible.

Goal 1 - Human-Environment Interaction
Students will be able to identify and explain how humans modify the environment and affect Earth's biophysical systems through their human activities.

Goal 2 - Biophysical Systems
Students will be able to identify and explain an array of patterns, processes, and interactions in Earth's biophysical systems occurring at different spatial scales.

Goal 3 - Human-Cultural Systems
Students will be able to identify and explain an array of patterns, processes, and interactions across Earth's human landscapes at different spatial scales.

Goal 4 - Geographic Thought, Methods and Analysis
Students will understand basic geographic concepts and ideas, and will be capable of using them to inform their work. Students will also demonstrate the ability to select and use appropriate tools and techniques for addressing geographic problems and conducting geographic analysis. They will also be able to use multiple methods to examine, represent, and visualize Earth and its geographic characteristics.

The program offers a concentration in the university's interdisciplinary program, Environment and Natural Resources. A description of the concentration requirements is available online at the ENR website.

Geology and Geophysics

122 Geology Building, (307) 766-3386
FAX: (307) 766-6679
Web site: www.uwyo.edu/geolgeophys
Department Head: Mark T. Clementz

Professors:

MICHAEL J. CHEADLE, B.A. Oxford University 1981; M.S. Cornell University 1984; Ph.D. Cambridge University 1989; Professor of Geophysics 2021, 2001.

MARK T. CLEMENTZ, B.S. University of Missouri, Columbia 1996; Ph.D. University of California, Santa Cruz 2002; Professor of Geology 2017, 2005.

ELLEN D. CURRANO, B.S. University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Geology 2022, 2014.

DARIO GRANA, B.S. University of Pavia 2003; M.S. 2005; M.S. University of Milano Bicocca 2006; M.S. Stanford University 2013; Ph.D. 2013; Professor of Geophysics and the School of Energy Resources 2022, 2013.

BARBARA E. JOHN, B.A. University of California-Berkeley 1978; Ph.D. University of California-Santa Barbara 1987; Professor of Geology 2002, 1992.

JOHN KASZUBA, B.S. Beloit College 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines 1997; Professor of Geology and the School of Energy Resources 2019, 2008.

SUBHASHIS MALLICK, B.S. Indian Institute of Technology 1976; M.S. 1978; Ph.D. University of Hawaii 1987; Professor of Geophysics and the School of Energy Resources 2008.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.

THOMAS A. MINCKLEY, B.S. Northern Ari-zona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.

CLIFFORD S. RIEBE, B.S.E. University of Michigan 1992; Ph.D. University of California-Berkeley 2000; Professor of Geology 2020, 2008.

JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.

BRYAN N SHUMAN, B.A. Colorado College 1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

KENNETH W. W. SIMS, B.A. Colorado College 1986; M.S. University of New Mexico 1989; Ph.D. University of California - Berkeley 1995; Professor of Geology 2014, 2009.

YE ZHANG, B.S. Nanjing University (PR China) 1998; M.S. University of Minnesota 2004; Ph.D. Indiana University 2005; Professor of Geology 2018, 2007.

Associate Professors:

PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; Associate Professor of Geophysics and the School of Energy Resources 2014, 2008.

KENNETH G. DUEKER, B.A. Whitman College 1984; Ph.D. University of Oregon 1994; Associate Professor of Geophysics 2006, 2000.

ANDREW PARSEKIAN, B.S. Dickinson College 2005; Ph.D. Rutgers University 2011; Associate Professor of Geophysics 2020, 2013.

Assistant Professors:

JOSEPH BIASI, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

MADELINE J. LEWIS, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

JAMIE MCFARLIN, B.A. Lawrence University, 2009; M.S. Northwestern University, 2016; Ph.D. Northwestern University, 2019; Assistant Professor of Geology 2022.

Research Scientists:

BRADLEY CARR, B.S University of Wisconsin-Madison 1987; Ph.D. University of Wyoming 1995; Associate Research Scientist Senior of Geophysics 2017, 2013.

KEVIN R. CHAMBERLAIN, B.A. Colgate University 1979; Ph.D. Washington University 1990; Research Professor of Geology 2004, 1990.

JANET C. DEWEY, B.S. Mississippi State University 1990; M.S. Auburn University 1993; Associate Research Scientist of Geology 2017, 2011.

LAURA VIETTI, B.S. University of Wyoming 2006; Ph.D. University of Minnesota 2014; Assistant Research Scientist of Geology 2015.

Lecturers:

ERIN E. KLAUK, B.S. Buffalo State University 2001; M.S. Montana State University 2007; Assistant Lecturer of Geology 2023

Adjunct Professors:

Sarah Aciego, Vladmir Alvarado, Tyler Brown, Erin Campbell, Barbara Carrapa, Jay Chapman, Carrick Eggleston, Eric Erslev, Peter H. Hennings, W. Steven Holbrook, Ranie Lynds, Beth McMillan,

Professors Emeriti:

James I. Drever, William E. Frerichs, B. Ronald Frost, Carol D. Frost, Robert R. Howell, Neil F. Humphrey, Jason A. Lillegraven, Ronald W. Marrs, Randi Martinsen, James E. McClurg, James D. Myers, Scott B. Smithson, Arthur W. Snoke, Ronald C. Surdam, Susan M. Swapp

Geology is the study of the origin, history and structure of the earth. Our undergraduate offerings encompass virtually every aspect of the science, with emphasis on current theory, methods, and applications. The philosophy of the department is to provide sound training in both theory and field observation, and to couple this background with a thorough education in modern laboratory, quantitative, and field techniques required for an understanding of geologic processes.

The setting of the university in the Rocky Mountains is ideal because some of North America's most outstanding geologic features are within a short drive of campus. The semiarid climate in Wyoming has resulted in excellent exposures of diverse rock types ranging in age from Precambrian to Recent. Deformation of the rocks in the region has been extensive, affording the student a field laboratory that exhibits a wide diversity of styles of faulting and folding. Mineral deposits, petroleum resources, and coal abound in the region.

Undergraduate Majors

The Bachelor of Science in geology is designed for those students who intend to become professional geologists and/or those who plan to attend graduate school in geosciences. The program includes courses normally expected of graduate school applicants, including a summer field camp and courses in related sciences and mathematics. This degree program prepares students for the examination for the professional geologist license.

The Bachelor of Arts in geology and Earth sciences is specifically designed for undergraduates who wish to study Earth sciences as a foundation for careers in a variety of areas, such as environmental law, natural resource business, land use planning, Earth science education, science journalism, and many governmental positions. The B.A. program includes a broad spectrum of courses, and focuses both on information about the Earth and on how society makes decisions that affect the Earth system.

The Bachelor of Science in Environmental Geology and Geohydrology is designed for those students who intend to become professionals in environmental fields such as consulting, site assessment, hazard assessment, and remediation. The degree will prepare students for graduate school in environmental disciplines and for entry-level jobs.

Majors in any of the degree programs above may also choose to declare an affiliated degree with the School of Environment and Natural Resources by completing degree requirements for both degrees. Students should consult the section on the School of Environment and Natural Resources.

The Department of Geology and Geophysics also participates in the Earth System Science interdisciplinary program by offering a concentration in geology for the B.S. degree in ESS. Students interested in this major should consult the section on Earth System Science for curriculum requirements.

Geology Program Objectives: Bachelor of Science

The primary mission of our B.S. geology program is to provide a quality educational experience that prepares men and women to enter careers in geology and related fields. We expect that our graduates should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science.
• Be able to apply basic scientific and technical knowledge to specific tasks and problems.
• Cultivate the specific scientific and technical skills that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity in the skills of independent learning, critical thinking, problem definition, and problem solving.
• Develop enhanced numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in their workplace and in individual and team-related activities.

• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Science

The department of Geology and Geophysics has the following specific goals for its B.S. program:
• Students in the B.S. program will receive a quality preparatory education in the discipline that is current, relevant, practical, and personal.
• B.S. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.S. students who graduate with appropriate grades will be well prepared for entry-level positions as professionals within their and other related disciplines.

Geology Program Objectives: Bachelor of Arts

The primary mission of our B.A. geology program is to provide a broad educational experience that prepares men and women for careers in earth science-related fields. We expect that our graduate should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science-related fields.
• Be able to apply their knowledge to specific situations or problems.
• Cultivate the skills and ethics that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity for independent learning, critical thinking, and problem-solving.
• Develop basic numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in the work environment, both in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Arts

The department of Geology and Geophysics has the following specific goals for its B.A. program:
• Students in the B.A. program will receive a broad preparatory education in earth science and related fields that is current, relevant, practical, and personal.
• B.A. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.A. students who graduate with appropriate grades will be well prepared for entry-level positions in the geosciences and other related disciplines.

Required Academic Performance

In order to graduate with a Bachelor of Science or Bachelor of Arts degree in geology, the student must earn a letter grade of C (S where appropriate) or better in each course listed herein as part of the required course programs. This grade requirement applies to course work taken outside the department, as well as to transfer courses credited in lieu of resident requirements.

Undergraduate Minor

A minor in geology requires 18 hours of coursework in the Department of Geology and Geophysics. Students are required to take one GEOL 1000-level course; one GEOL 2000-level course; and fulfill remaining hours with GEOL 2000-level or higher courses in consultation with their adviser. A grade of C or better is required in each of these courses.

Graduate Study

The department offers instruction and research programs leading to master of science and doctor of philosophy degrees in both geology and geophysics and to the master of science in geology/water resources.

Program Specific Admission Requirements

All applicants must complete an online departmental application form with statement of intent. Forms are available from the Department of Geology and Geophysics Web site at www.uwyo.edu/geolgeophys.

Application deadline is January 15 of each year.

All applicants should have completed undergraduate coursework including mathematics through calculus, one year of chemistry, basic training in geology, and for most areas, one year of calculus-based physics.

Applicants to the geophysics graduate program should have an undergraduate degree in geophysics, geology, mathematics, physics, or engineering.

Applicants to the Ph.D. program, without a M.S. degree, must have attained an exceptional undergraduate record.

Formal approval of application by the departmental admissions committee.

Formal acceptance by an adviser.

Formal notice of admission by the university.

Program Specific Graduate Assistantships

All applicants to the geology and geophysics graduate program are considered for assistantships. Applicants are NOT required to complete the graduate assistant application form.

Program Specific Degree Requirements

Master of Science in Geology

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Master of Science in Geophysics

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Doctor of Philosophy in Geology (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will

result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Doctor of Philosophy in Geophysics (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Master of Science in Geology/Water Resources and Master of Science in Geophysics/Water Resources

Please refer to the Water Resources section of the *Catalog* for degree requirements.

Department of History

History

History Building

(307) 766-5101

Website: www.uwyo.edu/history

E-mail: uwhistory@uwyo.edu

Department Chair: Jeffrey Means

Professor:

RENEE LAEGREID, B.A. Washington State University 1982; M.A.L.S. Wesleyan University 1994; Ph.D. University of Nebraska 2002; Professor of History 2015, 2012.

Associate Professor:

ISADORA A. HELFGOTT, B.A. Swarthmore College 1994; A.M. Harvard University 1997; Ph.D. 2006; Associate Professor of History 2015, 2009.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Assistant Professor of History and Anthropology 2014.

JEFFREY D. MEANS, B.A. Grand Canyon University 1995; M.A. University of Montana 2001; Ph.D. University of Oklahoma 2007; Associate Professor of History 2013, 2007.

Assistant Professor:

ADAM BLACKLER, B.A. Carroll College 2006; M.A. University of Wyoming 2009; Ph.D. University of Minnesota - Twin Cities 2017; Assistant Professor of History 2018.

BARBARA E. LOGAN, B.A. Queens College, CUNY 1986; Ph.D. University of California-Santa Cruz 2002; Assistant Professor of History 2018, 2011.

MELISSA MORRIS, B.A. Miami University 2004; M.A. Miami University 2010; Ph.D. Columbia University 2017; Assistant Professor of History 2018.

PETER WALKER, B. A. University of Oxford 2008; M. Phil. University of Oxford 2010; Ph. D. Columbia University 2016; Visiting Assistant Professor of History 2019.

Adjunct Faculty:

MICHAEL J. DEVINE, B.A. Loras College 1967; M.A. Ohio State University 1968; Ph.D. 1974; Adjunct Professor of History, 2014, 1991.

Professors Emeriti:

Eric D. Kohler, William H. Moore, Phil Roberts

History Program

History is a foundational discipline that blends the methodologies and perspective of the humanities and social sciences in order to engage with the history of human culture on a global scale. UW's History degree program emphasizes interdisciplinary teaching and research and provides course work, research experiences, and internships on both American and international topics. The History program offers a Bachelor of Arts degree major, minor, Public History Concentration, and a Master of Arts degree.

The study of History at the University of Wyoming provides students with the tools to comprehend the present in order to prepare for the future. Challenging courses are designed to facilitate critical thinking and the development of analytical skills. Each of our courses features the discussion of complex issues, the development of writing and reading skills, and is generally oriented toward promoting individual enrichment. The professional skills that the History program instills transcend our field and allow students to work toward a variety of career choices such as business, law, government service, public history, archives and museum work, education, management, writing, and graduate studies. The ability to develop perspective, render informed judgments, and function as productive citizens of the global community stand as hallmarks of our program.

Learning Outcomes

It is the goal of the History department that our graduates have the following skills and knowledge:

- Students shall be able to demonstrate thinking skills by analyzing, synthesizing, and evaluating historical information from multiple sources.
- Students will develop the ability to distinguish between fact and fiction while understanding that there is no one historical truth.
- Students will produce well-researched written work that engages with both primary sources and the secondary literature.
- Students will develop an informed familiarity with multiple cultures.
- Students will employ a full range of techniques and methods used to gain historical knowledge.
- Students will develop an ability to convey verbally their historical knowledge.
- Students will demonstrate their understanding of cause and effect along with their knowledge of the general chronology of human experience.

Department of Languages - Modern and Classical

116 Hoyt Hall, (307) 766-4177
FAX: (307) 766-2727
Website: www.uwyo.edu/modlang
Department Chair: Joy Landeira

Professor:

CONXITA DOMÈNECH, B.A. Universitat Autònoma de Barcelona 1990; Licenciatura 1992; M.A. University of Colorado Boulder 2006; Ph.D. 2010; Professor of Spanish 2020.

JOY LANDEIRA, B.A. University of Wyoming 1973; M.A. 1975; Ph.D University of Colorado, Boulder 1981. Professor of Spanish 2015. Department Chair.

Associate Professors:

EKATERINA ALEXANDROVA, B.A. Saint Joseph's University 2003; M.A. Dartmouth College 2004; Ph.D. University of Pennsylvania 2012; Associate Professor of French 2018, 2012.

IRENE CHECA-GARCÍA, B.A. University of Granada 1997; M.A. Linguistics University of Granada 2000; Ph.D. Universidad de Alemería 2004; Associate Professor of Spanish 2018, 2012.

REBECCA E. STEELE, B.A. LeibnitzAcademie 2001; M.A. Rutgers, The State University of New Jersey 2008; Ph.D. 2009; Associate Professor of German 2015, 2009.

KHAMA-BASSILI TOLO, G3: Gradué en Pédagogie Appliquée, Option: FrancaisLinguistique Africaine, Université Nationale du Zaire 1976; L2: Licencié en Pédagogie Appliquée, Option: Francais, 1978; M.A. Vanderbilt University 1986; Ph.D. 1989; Associate Professor of French 1996, 1990.

Assistant Professors:

CHELSEA ESCALANTE, B.A. Stanford University 2005; M.A. University of Arizona 2009; Ph.D. University of California, Davis 2018; Assistant Professor of Spanish 2018.

SONIA RODRIGUEZ HICKS, Ph.D. University of New Mexico 2017. Assistant Professor of Spanish 2020.

Senior Academic Professional Lecturers:

LAURA DE LOZIER, B.A. Beloit College 1990; M.A. University of Wisconsin 1992; Ph.D. 2002; Senior Academic Professional Lecturer in Classics, Greek, and Latin 2014, 2003.

BÉNÉDICTE SOHIER, B.A. Stephen F. Austin State University 2006; M.A. Indiana University Bloomington 2008; Associate Academic Professional Lecturer in French 2015, 2009.

YAN ZHANG, B.A. Harbin Institute of Technology 2000; M.A. Heilongjiang Provincial Academy of Social Sciences 2002; Senior Academic Professional Lecturer in Chinese 2016, 2006.

Assistant Lecturers

NOAH MILES, B.A. University of Iowa 2005; M.A. University of Iowa 2007; Assistant Lecturer in Japanese 2022.

ADRIANA NOYA-SALGUIERO, B.A. Universidad Complutense de Madrid 1991; M.A. Universidad Complutense de Madrid 1993; M.A. University of Wyoming 2017; Assistant Lecturer in Spanish 2022.

Professors Emeriti:

M. Ian Adams, Lewis Bagby, Lowell A. Bangerter, Klaus D. Hanson, Francis S. Heck, Philip G. Holt, Joseph Krafczik, Hannelore Mundt, Jean-Louis G. Picherit, Duane Rhoades, Pavel Sigalov. Mark W. Person.

The Modern and Classical Languages department offers work leading to the B.A. degree with majors and minors in French, German, and Spanish. A minor is offered in Classical Civilizations, Chinese, Latin and Japanese. The M.A. is available in Spanish. Courses are also offered in literature, linguistics and translation.

Foreign Language Requirements

All candidates for the B.A. and B.S. degree in the College of Arts and Sciences who matriculated before Fall 2015 are required to complete the equivalent of 8 semester hours of work in a single modern or classical language. Students with prior exposure to the language may be granted college credit after taking an online examination administered by the department; students must take this examination before completing registration for a language course (for regulations governing credit by examination, refer to Credit Available to Undergraduate Students in this *Catalog*). An advanced placement, AP, examination in the language with a score of 4 or higher satisfies the language requirement in most languages, as do CLEP and IB scores (see section on Credit by Examination on the department website).

Students who have had a foreign language in high school should take the online examination to determine the course in which they should enroll and to avail themselves of the opportunity to receive credit by examination. Students who have completed their language requirement can enroll for additional language courses of their choice, something strongly advised for those who wish to reach adequate levels of proficiency in the language or wish to study abroad. Check the Catalog or website for special sections targeted for students with varied experiences in the language.

Undergraduate Major

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Students completing an undergraduate major in our department will meet the following learning goals:

1. attain proficiency in another language in all four of the basic skills (speaking, listening, reading, and writing);
2. gain understanding of other cultures; and
3. develop skills in research critical thinking, analysis, and writing on subjects appropriate to the field of study.

Students will meet the following learning outcomes to:

1. demonstrate proficiency in conversation;
2. demonstrate reading comprehension of texts written in the language;
3. produce grammatical, idiomatic compositions in the target language;
4. gain essential knowledge about the history, traditions, customs, and ways of thinking of at least one other culture;
5. demonstrate understanding of works of literature read in the original language; and
6. produce well-reasoned and clearly articulate research papers on subjects appropriate to their field.

Minor

In general, students desiring to complete a minor in a foreign language will be required to complete a program of 18 semester hours above 2030.

Teaching Certification

For those wishing to pursue teaching certification, contact the Department of Secondary Education.

Native Language Credit

Students are not allowed university credit for language courses in their native language below the 4000 level, but may receive credit for literature courses below that level.

Study Abroad

There are many opportunities for students to study abroad and students are encouraged to do so.

Graduate Study

The Department of Modern and Classical Languages offers programs leading to the master of arts degree in Spanish. Contact the department for further details or check the department website.

Program Specific Admission Requirements

Admission to the graduate program in a specific language is open to students who have completed an undergraduate major, or the equivalent, in the same subject and who meet the minimum requirements set forth in this *Catalog*.

Students entering the graduate program from other institutions may be required to make up deficiencies in areas covered by required courses in this department's undergraduate programs.

Department of Management and Marketing

College of Business 354, (307) 766-3124
FAX: (307) 766-3488
Web site: business.uwyo.edu/mgtmkt
Department Chairman: Chase Thiel

Professors:

JEFF COVIN, B.S University of Pittsburgh 1979; MBA Indiana University of Pennsylvania 1981; Ph.D. University of Pittsburgh 1985, Professor of Entrepreneurship 2023.

PATRICK M. KREISER, B.A. John Carroll University 1997; M.B.A. University of Alabama 1999; Ph.D. 2004; Professor of Management and Rile Chair of Entrepreneurship and Leadership 2021, 2018.

MARK LEACH, B.S. University of Arizona 1991; Ph.D. Georgia State University 1998; Professor of Marketing 2016.

C. MARK PETERSON, B.A. University of Virginia 1978; M.S. Georgia Institute of Technology 1989; Ph.D. 1994; Professor of Marketing 2014, 2007.

LINDA PRICE, B.A. University of Wyoming; M.B.A. University of Wyoming; Ph.D. University of Texas Austin; Professor of Marketing 2020.

RONN J. SMITH, B.S. Montana State University 1999; M.A. Montana State University 2000; Ph.D. Washington State University 2004; Associate Professor of Marketing 2020.

ROBERT D. SPRAGUE, B.S.B.A. University of Denver 1980; J.D. 1985; M.B.A. University of Southern California 1999; Professor of Legal Studies in Business 2016, 2004.

CHASE THIEL, B.S. Idaho State University 2009; M.S. University of Oklahoma 2009; Ph.D. 2012; Professor of Management 2024, 2016.

Associate Professors:

GRANT L. LINDSTROM, B.S. Utah State University 1981; M.B.A. University of Utah 1986; Ph.D. 1989; Associate Professor of Management 1996, 1990.

ELIZABETH A. MINTON, B.S. University of Alaska Southeast 2008; M.B.A. Idaho State University 2010; Ph.D. University of Oregon 2014; Associate Professor of Marketing 2018, 2014.

STEPHANIE A. ONETO, B.S. University of Nebraska-Lincoln 1999; M.A. University of Houston 2001; Ph.D. 2007; Associate Professor of Marketing 2014, 2007.

NICHOLAS PRINCE, B.S. Kansas State University 2004; M.B.A. Brigham Young University 2009; Ph.D. University of Illinois Urbana-Champaign 2015; Associate Professor of Management 2024, 2016.

Assistant Professors:

RYAN BAILEY, B.B.A. University of Tulsa 2010; M.B.A. University of Tulsa 2019; Ph.D. University of Oklahomoa 2023; Assistant Professor of Entrepreneurship 2023.

CAMERON BORGHOLTHAUS, B.S. Idaho State University 2012; Ph.D. University of Nebraska-Lincoln 2021; Assistant Professor of Management 2024.

MOLLY R. BURCHETT, B.A. Transylvania University 2009; M.A. University of Kentucky 2014; Ph.D. University of Kentucky 2020.

ABHAY GROVER, B.S. Punjab Agricultural University 2012; M.S. Iowa State University 2017; Ph.D. University of Maryland 2024; Assistant Professor of Supply Chain Management 2024.

JACOB HOLWERDA, B.A. Cornell University 2006; M.S. Cornell University 2009; Ph.D. Cornell University 2014; Assistant Professor of Management 2020.

SAMUEL H. MATTHEWS, B.S. Brigham Young University 2013; M.S. Brighamm Young University 2013; Ph.D. University of Oklahoma 2013; Assistant Professor of Management 2023.

NICOLINA TAYLOR, B.B.A Texas State University 2017; M.S. Southern Methodist University 2018; Ph.D. University of Texas, Arlington 2022; Assistant Professor of Management 2024.

Academic Professionals:

COREY A. BILLINGTON, B.S. Stanford University 1981; M.S. 1981; Ph.D. 1987; Professor of Practice 2015.

CASEY FROME, B.S. University of Wyoming 2009; M.P.A. 2014; J.D. 2014; Assistant Lecturer 2018.

MARIA JENKS, B.S. Miami University 1986; M.B.A. Rockhurst University 2017; Assistant Lecturer 2023.

ERIC J. KRSZJZANIEK, B.A. University of Wisconsin-Stevens Point 2005; M.A. University of Wyoming 2014; Ph.D. 2018; Assistant Lecturer 2018.

GREG C. LIVINGSTON, B.A. University of Wyoming 1996; M.A. 2018; Assistant Lecturer 2018.

Professors Emeriti:

Robert E. Allen, John H. Jackson, Anthony F. McGann, Richard C. McGinity, J. Brooks Mitchell, Terri L. Rittenburg, Robert G. Roe, Philip E. Varca, Larry R. Weatherford

The Department of Management and Marketing offers programs of study leading to the Bachelor of Science in Business degrees in (1) Management, (2) Marketing, (3) Entrepreneurship, and (4) Professional Sales. The departmental requirements for each of these degree programs are listed in the program sections below.

College of Business 3000- and 4000 level courses are reserved for those with junior or senior level standing whether majors or non-majors unless otherwise noted.

Decision Sciences

The decision sciences courses are a supplement for students with a variety of majors. The curriculum proides analytic skills based in both numerical data and behavioral evidence to facilitate problem solving, planning/project management, and decision making within organizations and across supply chains.

Entrepreneurship

The Entrepreneurship major is designed to assist students who wish to start their own businesses by providing them with exposure to the development and testing of business concepts. Analyzing the potential success of their concepts using a variety of tools and techniques, being flexible in developing new businesses and innovative ideas, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures. The major provides students with exposure to issues involving family firms such as governance, succession and interpersonal relationships as well as innovation and change in existing organizations. Thus, the major focuses on entrepreneurship in both new ventures and established firms and prepares students to 1) start new businesses, 2) innovate in their own family firms, and/or 3) be entrepreneurial in an existing business.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Management

The Management major focuses on using resources to achieve goals in organizations. It studies the activities and operations that bring together human, financial, material, and information resources. Management majors should graduate with an understanding of the business world and a set of tools to manage successfully parts or all of an organization's operations. The Management degree allows students the ability to customize their degree within one of three focus areas:

1) Human Resources Focus - An experiential-learning focused program designed to prepare students to develop and manage the human capital of an organization.Students will be prepared to develop and implement policies and practices for recruitment, socialization, training, development, compensation, performance management, career planning, and employee relations. As more organizations move away from viewing employees as a commodity, toward an understanding that employees are a resource that can be developed into a distinct competitive advantage to ensure organizational success, sustainability, and reputation in the human resource function in the workplace will become increasingly important. This focus area will help employees understand the core functions of the area of human resource management are to a) recognize the potential of individuals for and within an organization and b) structure a positive, supportive, constructive work environment that will enable employees to work at their optimal capacity and achieve organizational goals.

2) General Management Focus - A multi-faceted program designed to prepare students to manage multiple business functions across a variety of organizational types. A particular emphasis is to help develop interpersonal and

problem-solving skills so they are capable of resolving a broad spectrum of problems for large or small organizations, or consult with organizations about these issues. This focus area is designed to provide students with a large degree of flexibility when considering different career paths, because students will be prepared to systematically think through the processes that organizations use to create and maintain sustainable competitive advantage. The focus will help prepare students to work in for-profit businesses, non-profit organizations, entrepreneurial ventures, or in government organizations.

3) Management Hospitality Focus - An experiential-learning focused program designed to provide students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, entrepreneurship, and consumer relations. Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

The Management major, including focus areas, are available to students as an online degree completion program.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Marketing

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers and for managing relationships in ways to benefit local and global stakeholders. Marketing majors are employed in a wide variety of industries and governmental agencies where understanding and managing customer relationships are critical. Students find jobs in market research, advertising, public relations, professional selling, non-profit marketing, product management, retailing, digital marketing and brand management.

The Marketing Major is available to students as an online degree completion program.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Professional Sales

The Professional Sales major prepares students to manage business clients of for-profit and nonprofit organizations. Specifically, this major provides business students with coursework and opportunities to equip themselves with essential knowledge and skills required to begin professional careers in sales. Careers in sales offer independence, ample financial reward, personal growth and opportunities for rapid advancement within organizations. Students that pursue a degree in professional sales will be challenged with industry engagement opportunities such as internships, and sales competitions. Students experience rigorous classroom experiences designed to develop the knowledge and practical skills needed to succeed during the first years of their sales careers including: oral and written communication skills, selling techniques and networking, the use of sales technology and customer information, and sales pipeline management.

All professional sales majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All professional selling courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Graduate Study

The Department of Management and Marketing offers a Ph.D. in Marketing and Management. Some 4000- and 5000 level classes may be counted as graduate classes in other programs.

Doctoral Program

Doctor of Philosophy in Marketing and Management

The Department of Management and Marketing offers a program leading to a Doctor of Philosophy in Marketing and Management. The program of study draws from extant marketing theory, primarily in consumer behavior, combined with studies in the basic social sciences (e.g., economics, psychology, education, communications) and other applied sciences (e.g., environmental sciences) to create a base of knowledge acceptable for marketing and management scholarship in higher education, and a depth of knowledge conducive to a stream of publishable research in a specific topic area. Theoretical development is supplemented with course work in the gathering and analysis of qualitative and quantitative data, which prepares the student for rigorous exploration of marketing and managerial phenomena. Students are required to complete 72 semester hours and a scholarly dissertation that contributes to the knowledge foundations in marketing or management and contributes to the basic sciences that informed the inquiry. Semester hours will include core classes from the department graduate faculty, outside elective courses in statistics, basic social sciences, and/or interdisciplinary studies in environmental and natural resources, and dissertation work. First and second year research projects are also required, aimed at the student having published articles in respected marketing management and/or social science journals before program completion. A comprehensive exam is completed at the end of the second semester.

All doctoral students are mentored in both research and teaching. Students are expected to teach while enrolled in the program. The program is designed to give students expertise and demonstrated competency in both Research and teaching.

Application Deadlines

We begin accepting applications in October for the following fall semester. All completed applications must be submitted by February 1st.

Admission Requirements

• A master's degree is preferred but not required. Highly qualified students without a master's degree may receive consideration

• Completed application (i.e., all required materials submitted) on the UW Graduate Programs Applications system

• $50 application fee paid to University Admissions. This covers administrative expenses and will not be waived

• Copies of **all** undergraduate and graduate program transcripts scanned and uploaded to the UW system, and official transcripts from each post-secondary institution attended submitted to the UW admissions office

• A valid GRE (310) or GMAT (650) score. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be requested from the testing organization and sent to UW

• Three strong letters of recommendation, including one or more from an academic. The letters must be uploaded by the recommenders to the UW system in MS Word or .pdf format

• A personal statement summarizing your interest in pursuing doctoral studies and speaking to questions or issues you wish to research. This document must be uploaded to the UW system as an MS Word or .pdf document

• For international students, an English proficiency test is required: Test of Foreign Language (TOEFL), IELTS or DUOLINGO scores are accepted. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be submitted to UW from the testing organization. Minimum scores:

- TOEFL score of 76 (online), 540 (paper) or 207 (computer-based) is required for admission
- IELTS minimum score of 6.5 is required for admission
- Duolingo minimum score of 110 is required for admission

Department of Mathematics and Statistics

Mathematics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats/
Department Head: Jason Williford

Professors:

GABRIELLE ALLEN, B.S. University of Nottingham 1988; M.S. University of Cambridge 1989; Ph.D. Cardiff University 1993; Professor of Mathematics 2020.

CRAIG C. DOUGLAS, B.A. University of Chicago 1977; M.S. Yale University 1978; M.Phil. 1981; Ph.D. 1982; SER Professor of Mathematics 2008.

VICTOR GINTING, B.S. Institut Teknologi Bandung Indonesia 1995; M.S. Texas A&M University 1998; Ph.D. 2004; Professor of Mathematics 2017, 2007.

STEFAN HEINZ, B.S. Humboldt University 1985; M.S. 1986; Ph.D. Heinrich-Hertz Institute 1990; Professor of Mathematics 2013, 2004.

LONG LEE, B.S. National Taiwan University, Taipei 1988; M.A. University of Maryland 1998; Ph.D. University of Washington 2002; Professor of Mathematics 2018, 2005.

RONGSONG LIU, B.A. Henan Normal University 1999; M.A. Fudan University 2002; Ph.D. York University 2006; Associate Professor of Mathematics and Program in Ecology 2015, 2009.

G. ERIC MOORHOUSE, B.S. University of Toronto 1980; M.S. 1984; Ph.D. 1987; Professor of Mathematics 2011, 1989.

ZHUANG NIU, B.S. Wuhan University 1998; M.S. 2001; Ph.D. University of Toronto 2005; Associate Professor of Mathematics 2021, 2012.

BRYAN L. SHADER, B.S. University of Wyoming 1984; M.S. University of Wisconsin-Madison 1987; Ph.D. 1990; Professor of Mathematics 2000, 1990.

JASON WILLIFORD, B.A. University of Pennsylvania 1998; Ph.D. University of Delaware 2004; Associate Professor Mathematics 2014, 2009.

Associate Professors:

MICHELLE T. CHAMBERLIN, B.S. Colorado State University 1997; M.S. 1999; Ph.D. Purdue University 2002; Associate Professor of Mathematics 2012, 2007.

FREDERICO da CUNHA FURTADO, B.S. Federal University of Minas Gerais 1979; M.S. Federal University of Rio de Janeiro 1984; Ph.D. Courant Institute 1989; Associate Professor of Mathematics 2002, 1997.

TYRRELL McALLISTER, B.S. University of California, Davis 2001; Ph.D. 2006; Associate Professor of Mathematics 2015, 2009.

DAN STANESCU, B.Eng. Polytechnic Institute, Romania 1986; M.Eng. McGill University, 1994; Ph.D. Concordia University 1999; Associate Professor of Mathematics 2008, 2003.

MAN-CHUNG YEUNG, B.S. Jinan University, China 1986; M.Ph. University of Hong Kong 1990; Ph.D. University of California-Los Angeles 1997; Associate Professor of Mathematics 2005, 2001.

Assistant Professor:

DANE TAYLOR, B.S. University of Wyoming 2008, Ph.D. University of Colorado Boulder 2013, SoC Assistant Professor of Mathematics 2023.

PING ZHONG, B.S. Huanzhong University 2005; M.S. Peking University 2008; Ph.D. Indiana University 2014; Assistant Professor of Mathematics 2018.

Senior Lecturers:

DAVID ANTON, B.S. North Dakota State University 2001; M.S. University of Wyoming 2007; Senior Lecturer in Mathematics 2017, 2005.

WILLIAM WEBER, B.S. Colorado State University 1979; B.S. University of Wyoming 1988; M.S. 1992; Senior Lecturer in Mathematics 2012, 2001.

Associate Lecturer:

NATHAN CLEMENTS, B.S. Brigham Young University-Idaho 2007; M.S. Idaho State University 2009; D.A. 2012; Associate Lecturer in Mathematics 2019, 2012.

Assistant Lecturer:

CHRISTINA G. KNOX, B.S. California State Polytechnic University, Pomona 2012; M.S. 2014; Ph.D. University of California, Riverside, 2019; Assistant Lecturer of Mathematics 2019.

JORGE FLORES-MATUTE, B.S. Chadron State College 2015; M.S. University of Wyoming 2018; Assistant Lecturer of Mathematics 2020.

CEDAR WISEMAN, B.S. University of Wyoming 2017; M.S. University of Wyoming 2020; Assistant Lecturer of Mathematics 2022.

Adjunct Professors:

Saman Aryana, Hakima Bessaih, Li Deng Douglas, George Elliot, Benedetta Ferrario, Maria Garrido-Atienda, John Hitchcock, Robert Kansky, David Meyer, Bjorn Schmalfuss, Gerald Schuster, Dongwoo Sheen

Professors Emeriti:

Charles Angevine, Leonard Asimow, Robert Buschman, Benito M. Chen-Carpentier, George C. Gastl, John H. George, Sylvia A. Hobart, Syed Husain, Peter Polyakov, A. Duane Porter, Ben G. Roth, John Rowland, Chanyoung Lee Shader, Raymond Smithson, John Spitler, Myron B. Allen III, Farhad Jarari.

"For the things of this world cannot be made known without a knowledge of mathematics."--Roger Bacon

Virtually every student at UW will take one or more math courses to fulfill graduation requirements. The intent is to illustrate the esthetics inherent in mathematics, and to provide students with the quantitative skills needed for today's careers.

Mathematics majors receive a broad and deep view of the mathematical sciences. They develop their mathematical thinking and communications skills in algebra, analysis, and applied math. They learn a variety of technological tools necessary for jobs in education, business, government, and industry. In addition to our math classes, the department offers a variety of opportunities to enrich the undergraduate experience. Students can participate in weekly seminars, summer research projects, Putnam Team competitions, and the math club.

Mathematics Placement

All UW math courses have prerequisites which are detailed in the course listings below. These are to assure that each student has the best possible opportunity for success in the course. In accordance with this, *all students registering for a math course will have their records checked in order to determine whether the prerequisite is satisfied.*

A computerized prerequisite check is run prior to the start of every semester. *Students who preregistered for a math course but have not satisfied the prerequisites at the time of the check will be automatically dropped from the course.*

Prerequisites for courses numbered 2200 or lower (except MATH 1105 and MATH 2120), and MATH2350 - Business Calculus, may be satisfied in one of four ways:

1. Obtain a grade of C or better in a prerequisite course. Note that noncredit courses from out-of-state colleges are not accepted as prerequisites.
2. Pass the Mathematics Placement Exam (MPE) at the stated level within one year of the start of the course.
3. Obtain a sufficiently high score on one of the following standardized exams within three years of the start of the course: ACT math score or SAT quantitative score.
4. Obtain a sufficiently high score on one of the following standardized exams: AP Calculus, CLEP, or IB.

Duplication of Courses (MATH 1400, MATH 1405, MATH 1450)

To avoid loss of credit because of duplication of course content, please note the following: (a) students with credit for both MATH 1400 and MATH 1405 will not receive new credit by taking MATH 1450; (b) students with credit for one of MATH 1400 or MATH 1405 will receive only 2 additional credits by taking MATH 1450; (c) students with credit for MATH 1450 will receive only 1 additional credit by taking both MATH 1400 and MATH 1405. Note that the GPA calculation for these situations is unusual, and students should ask the Registrar's Office for details.

Note that MATH 1450 counts as one attempt at each of MATH 1400 and MATH 1405 for the purposes of repeating classes.

Graduate Study

The Mathematics Program offers programs leading to the degrees of master of arts, master of science, master of arts in teaching, master of science in teaching, and the doctor of philosophy.

The requirements for these degrees reflect our belief that mathematicians should have a broad foundation in the core areas of algebra, analysis, and applied mathematics as well as the experience of a more intensive investigation of a specialized area. We provide this within a flexible structure that recognizes the individual interests and varied backgrounds of our students.

Program Specific Admission Requirements

To be competitive for admission, applicants must have strong backgrounds in mathematics. Generally, this means a bachelor's degree in mathematics or a closely related discipline. All applicants should have substantial coursework beyond the calculus sequence; courses in differential equations, linear algebra, and, in particular, courses in abstract algebra and analysis are highly recommended. A solid performance on the GRE Subject Test in Mathematics can demonstrate the applicant's mastery of these subjects. The GRE Subject Test in Mathematics is therefore recommended but is not required.

The GRE General Test is required, with a minimum Quantitative Reasoning score of 157 and Verbal score of 143. International applicants need a composite TOEFL score of 76 or an IELTS score of 6.5.

ETS only reports TOEFL scores taken within two years of the date of request.

Graduate Assistantships

The mathematics program employs approximately 22 graduate assistants each year. Assistantships include a full tuition and fee waiver, a monthly living stipend, and health insurance. Ph.D. students normally receive a higher stipend than master's students.

Teaching assistants teach or assist with the teaching of an undergraduate course each semester.

Students may also compete for research assistantships, provided that their interests align with an externally funded research project.

Summer support is not guaranteed but is usually available through teaching and research opportunities.

Statistics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats
Program Director: Tim Robinson

Professors:

TIMOTHY J. ROBINSON, B.S. James Madison University 1989; M.S. Virginia Tech 1994; Ph.D. 1997; Professor of Statistics 2012

SHAUN S. WULFF, B.S. Montana State University 1991; M.S. 1994; Ph.D. Oregon State University 1999; Professor of Statistics 2019, 1999.

Assistant Professors:

MARIE-AGNES S. TELLIER, B.S. Florida Institute of Technologies 2000; MS Florida Institute of Technology 2002; M.S. University of Wyoming 205; Ph.D. University of Wyoming 2018; Assistant Professor of Statistics 2023.

Assistant Lecturer:

MICHELE BIRD, B.A. University of Nevada, Las Vegas 1996; M.A. 2000; Assistant Lecturer of Statistics 2019.

JARED STUDYVIN, B.S University of Wyoming 2009; Ph.D. University of Wyoming 2015; Assistant Lecturer 2021.

Adjunct Professors:

Emeriti Faculty:

Stephen L. Bieber, Burke Grandjean, Richard Anderson-Sprecher, Kenneth Gerow

The curriculum in statistics includes a firm foundation in mathematics and computer science, in addition to course work in statistical theory and methodology. Graduating statistics majors at the University of Wyoming are expected to demonstrate the ability to identify and utilize appropriate statistical methods for finding data-driven solutions to a wide variety of real-life and scientific questions. In order to demonstrate these abilities, the graduating Statistics major must be trained in statistical theory, computational techniques and courses which emphasize the use of statistical methods in problem solving.

Statistical Theory

A strong background in statistical theory is crucial for a practicing statistician. It is the primary aspect that separates the consultant from the client. More specifically, it allows a statistician to generalize statistical procedures, formulate models (and associated assumptions), perform advanced statistical computation, and formalize interpretation of results. The statistical theory prerequisites are notably covered in the undergraduate courses STAT 4255 (Mathematical Theory of Probability), STAT 4265 (Introduction to the Theory of Statistics), and MATH 2250 (Elementary Linear Algebra).

Computation Techniques

The professional field of Statistics is highly computational. Associated computational skills involve coding, debugging, and programming beyond just class scripts provided to students in the undergraduate courses. The open-source R environment is primarily used in the graduate courses due to its popularity, availability, and capabilities (both statistical functions and programming). Thus, students are expected to have basic R program skills related to data management, statistical functions, and post-processing of output. These R based skills are covered in all of the upper division courses, particularly core courses such as 4015 (Regression Analysis), STAT 4025 (Design and Analysis of Experiments I), and 4045 (Categorical Data Analysis). The STAT 4015 and 4025 courses should be taken as soon as possible in the curriculum as these courses provide foundational content for nearly all of the upper division Statistics courses.

Interpretation of Results

An important aspect of applied statistics is to be able to interpret results of statistical analyses and express those interpretations clearly, accurately, and technically. Thus, these interpretations need to be in line with statistical theory (inference) and yet be clearly expressed to both statisticians and applied scientists. Thus, the undergraduate Statistics graduate is expected to be familiar with the statistical interpretation of results from the applied statistical courses, so that they can better understand the rationale underlying formal statistical interpretation and to develop the required skills to provide such interpretations independently.

University of Wyoming Statistics majors experience excellent job and/or graduate school placement. Our graduates have taken positions n industry, government, the sciences (social, biological, physical, and health), as well as engineering and education.

The statistics program also offers graduate programs leading to a graduate minor in statistics, and to a Master of Science (Plan B) in statistics.

Graduate Study

The Statistics Program offers graduate programs leading to a graduate minor in statistics, and to a master of science in applied statistics (Plan B). The minor is designed to enhance the M.S. or Ph.D. program of any student enrolled in one of the graduate programs at the University of Wyoming. All of these programs emphasize the understanding and application of a broad variety of statistical methods on real projects. Students will be provided with numerous

opportunities to perform analyses and communicate findings. The MS Statistics program is specifically designed to prepare students to be effective statistical consultants and data scientists.

Program Specific Admission Requirements

The prerequisite for admission to graduate study is an undergraduate degree from an accredited institution, including work in mathematics through calculus III, Linear Algebra and at least one second-level class in statistical methods. Prospective students are encouraged to have had Math Analysis and upper level introduction to probability and mathematical statistics. Students who do not have prerequisites in mathematics and statistics may make up this deficiency at the beginning of their graduate program; however, such work does not count toward graduation requirements.

Department of Mechanical Engineering

2052 Engineering Building, (307) 766-2122
Web site: www.uwyo.edu/mechanical
E-mail: me.info@uwyo.edu
Department Head: Ray S. Fertig III

Professors:

RAY S. FERTIG III, B.S. University of Wyoming 2001; M.S. 2003; Ph.D. Cornell University 2010; Associate Professor of Mechanical Engineering 20232017, 2011.

JONATHAN W. NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineering 2012, 1997.

Associate Professors:

ERICA L. BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

MICHAEL STOELLINGER, M.S. Technical University Munich 2005; Ph.D. University of Wyoming 2010; Associate Professor of Mechanical Engineering 2018, 2012.

Assistant Professors:

XIANG ZHANG, B.S. Northeastern University (China) 2009; M.S. Beihang University (China) 2012; Ph.D. Vanderbilt University 2017; Assistant Professor of Mechanical Engineering 2019.

Instructional Professors:

LEVI J. KIRBY, B.S. Western Illinois University 2017; M.S. 2018; Ph.D. University of Iowa 2023; Assistant Instructional Professor of Mechanical Engineering 2023.

RAMSANKAR VEERAKUMAR, B.S University of Kerala (India) 2005; M.S. Birla Institute of Technology and Science (BITS Pilani) 2014. Ph.D. Iowa State University 2021. Assistant Instructional Professor of Mechanical Engineering 2021.

Lecturers:

KARI STRUBE, BS in Electrical Engineering (bioengineering option), University of Wyoming 2007. MS in Electrical Engineering, University of Wyoming, 2009. Assistant Lecturer, 2021

Professors Emeriti:

Dennis N. Coon, Paul A. Dellenback, Bruce R. Dewey, Andrew Hansen, Dimitri J. Mavriplis, Ovid A. Plumb, David E. Walrath

Mechanical Engineering B.S.

Mechanical Engineering is the broadest area of study in engineering. In contrast to other engineering disciplines, mechanical engineers are employed in significant percentages in almost all industrial and governmental organizations that employ engineers.

The spectrum of activities in which mechanical engineers are engaged continues to expand. The curriculum has in turn become flexible to allow for the education of mechanical engineering students in many diverse and allied areas, or for graduate school preparation.

The educational objectives of the of Mechanical Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The undergraduate program includes a foundation in mathematics, science, and engineering sciences. The three key elements of the mechanical engineering undergraduate program include core engineering principles, laboratory experience, and development of communication skills.

The mechanical engineering curriculum affords the student the flexibility to pursue specific professional goals within the discipline. Such an opportunity needs to be carefully considered by each student, so that elective courses are chosen with these goals in mind. During the junior and senior years, the student selects 15 credit hours of technical electives.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Mechanical Engineering, B.S.

Energy Systems Engineering B.S.

Energy Systems Engineering (ESE) is an ABET-accredited undergraduate degree offering in the Department of Mechanical Engineering. The ESE program was designed to train engineers to address one of this country's foremost challenges: to achieve energy independence and meet the growing demand for energy, while at the same time addressing critical environmental concerns. The program is intended to help meet these challenges by preparing students to be:

- technology leaders in energy conversion and environmental protection systems
- capable managers in the energy industry
- versatile overseers of energy development by the governmental sector
- technically-trained and environmentally-sensitive liaisons between the energy industry and the public.

ESE students will be trained in alternative and environmentally-friendly energy conversion systems, as well as more traditional technologies that will continue to play an important role for the foreseeable future.

Although the discipline of mechanical engineering has historically been responsible for the design of energy conversion cycles and equipment, issues outside the conventional realms of engineering are increasingly important to address as new and improved energy conversion systems are implemented. The engineer trained in Energy Systems will be better equipped than traditional mechanical engineers to deal with the environmental, legal, political, economic, and permitting aspects of new energy projects.

The educational objectives of the of Energy Systems Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Energy Systems Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The ESE degree has many coursework requirements in common with the Mechanical Engineering degree, particularly in the thermal, fluids, and energy conversion sciences. However, the ESE program emphasizes energy conversion aspects of Mechanical Engineering and requires coursework from UW's School of Environment and Natural Resources (ENR), course work in environmental law, and electives picked from a list of classes that focus attention on energy and the environment. The ENR courses expose students to issues related to permitting such as preparation of environmental impact studies, and related regulations such as the Endangered Species Act. In addition, technical electives allow students to choose more detailed study in personal areas of interest including, for example, courses in environmental engineering, wind engineering, solar engineering, and petroleum engineering.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Energy Systems Engineering, B.S.

Concurrent ME/ESE Degrees

In the event that a student desires concurrent majors in ME and ESE, University policy requires that ALL requirements for each program are met. The student must select which will be the primary major.

Graduate Study

The Department of Mechanical Engineering offers graduate study leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering. Faculty in Mechanical Engineering conduct research in the areas of aerodynamics, biomaterials, composite materials, computational material science, computational fluid dynamics, combustion, continuum mechanics, heat transfer, materials reliability, mechanical behavior of materials, nanomechanics of surfaces and interfaces, and wind energy.

Department Specific Graduate Admission Requirements

Applicants should possess a Bachelor of Science (B.S.) degree or equivalent in Mechanical Engineering with a minimum GPA of 3.000 on a 4.000 grade scale or equivalent. Students that do not hold B.S.M.E. degrees may qualify as M.S. candidates by completing, without credit, certain prerequisite courses as specified by the Department. These prerequisites would depend upon the candidate's background and upon the area in which he/ she plans to specialize.

A minimum composite score of 294 (MS) or 307 (PhD) on the Verbal and Quantitative sections of the GRE is required for admission to the Mechanical Engineering Department. For international students, a minimum TOEFL score of 90 on the Internet-based test (iBT) (or a minimum IELTS score >= 6.5 or a DuoLingo >= 110) is required. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the following minimum English Proficiency must be met: OPI >= Advanced Mid, TOEFL Speaking >= 23, IELTS Speaking >= 6.5, DuoLingo Conversation & Production (average) >= 110. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/study-iep-esl/grad-ta-support/index.html) if you have questions regarding the English proficiency requirements. Admittance to the graduate program is competitive, and the average applicant that is accepted with assistantship support will likely have well above the minimum qualifications.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): resume, copy of academic transcript, copy of GRE scores, copies of TOEFL (or IELTS or DuoLingo) scores for international non-native English speaking applicants, three letters of reference, and a Statement of Purpose indicating the applicant's technical area of interest, abilities, and objectives in completing a graduate degree in mechanical engineering. If you are applying for the BS/MS program, please choose "QuickStart - Mechanical Engineering BS/MS" as the program (no GRE score and Statement of Purpose are needed for the BS/MS application). Applicants to the joint MBA/MS-ME program should chose the MS degree program for the application. To be considered for Assistantships, applications must be submitted before March 15 for the Fall semester or October 15 for the Spring semester.

For Quickstart B.S./M.S. admissions requirement, see degree link below.

Department of Military Science

Army ROTC

137 Hill Hall, (307) 766-3390
FAX: (307) 766-3383
Web site: www.uwyo.edu/armyrotc

Professor:

JONATHAN CURTIS, U.S. Military, Military Intelligence West Point B.S.; MSA Central Michigan University 2019; Professor of Militrary Science 2020.

Lecturer:

JEREMIAH SCHUCHARDT, Master Sergeant, U.S. Army; Senior Military Instructor 2019.

The Department of Military Science - Army ROTC faculty is composed of U.S. Army officers and senior noncommissioned officers. These officers hold bachelors' and masters' degrees in a variety of fields. Noncommissioned officers hold associate degrees in a variety of fields. Officers' military education includes completion of the Officer Basic Course and the Officer Advanced Course. Several faculty are graduates of the Army's Command and General Staff College and have completed military specialty schools such as: Flight School, Ranger School, Airborne School, Air Assault School, Special Forces School, Jumpmaster Course, Special Operations Training and Language School.

General Information

Army ROTC is a program which offers qualified college students the opportunity to graduate as officers and serve tours in the U.S. Army, the Army National Guard or the U.S. Army Reserve. The four-year program is divided into two parts called the basic course and the advanced course. The basic course, consisting of 8 credit hours, is usually taken during the first two years of college. No military obligation is incurred by enrolling in the basic course.

The advanced course, usually taken during the junior and senior years or during graduate school, involves 19 credit hours of study and a five-week Leadership Development and Assessment Course during the summer. Advanced course students incur a military obligation, and they receive up to $500.00 per month in tax-free subsistence throughout the academic year.

Army ROTC is not itself a major. Participants pursue the degree of their choice and take Army ROTC as an elective program. Those who complete the program may receive federal commissions from the President of the United States.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

ARMY 3010.....3

ARMY 3020.....3

ARMY 3025.....1

ARMY 3026.....1

ARMY 3030.....3

ARMY 4010.....2

ARMY 4020.....2

ARMY 4015.....1

ARMY 4016.....1

ARMY 4025.....1

ARMY 4026.....1

HIST 2020 or HP 4900.....3

Total credit hours 22

The military science minor, encompassing 22 credit hours, will prepare selected students for commissioning and establish a sound basis for their future professional development.

To be eligible for a commission, U. S. citizens must meet prescribed physical, intellectual, and moral standards in addition to completing Army ROTC studies and successful completion of Professional Military Education (PME) courses. These PME courses include written communication skills, military history and computer literacy. A two-year option is available for sophomore and junior students, students with prior military service (see below), and those completing a masters program.

In the Army ROTC classroom the student is exposed to a wide variety of subjects designed to instill confidence, self-discipline, integrity and responsibility. Students gain an appreciation for the role of national defense, and learn what a leader must be, know and do in order to gain the respect and support of their subordinates.

Skills learned in Army ROTC, including resource management, leadership and planning are valuable and complement any university major. Young commissioned officers returning to civilian sectors after military service find an abundance of career opportunities.

Uniforms, Pay and Allowances

All uniforms, books and other instructional materials required in Army ROTC are provided to basic and advance course students at no cost. The cadet uniform is the same as the U.S. Army uniform except for the distinctive ROTC insignia.

Advanced course participants are paid a tax-free subsistence allowance of up to $500.00 per month during the school year. During the summer training period students receive pay, travel, rations, quarters, clothing, and medical and dental services.

Two Year ROTC Program

The two-year program is designed for community college graduates and university students of sophomore or junior standing who did not take Army ROTC during the first two years of school. The program may also apply to seniors and graduates who have at least two years remaining in post graduate study.

To enter the two-year program, students must first attend a paid 28-day internship during the summer or be a veteran who has graduated from advanced individual training.

Special Scholarship Program

pecial Scholarship Program Two-, three-, and four-year scholarships are offered by Army ROTC. These scholarships pay full tuition, laboratory fees and a $1200 per year book fee. While on scholarship, the student receives up to $500.00 a month during the school year. In addition to active duty scholarships, Army ROTC offers scholarships to students wishing to join the U.S. Army Reserve or Army National Guard upon commissioning. These reserve scholarships also pay full tuition, laboratory fees, book fees, and up to $500.00 a month. Graduate students and undergraduate students are eligible to apply for the two- and three-year scholarships. These scholarships are awarded by the Professor of Military Science. Students do not have to be enrolled in ROTC to apply for these scholarships. Certain restrictions apply. High school juniors and seniors seeking a four-year scholarship should contact the Professor of Military Science, Army ROTC, Dept. 3167, 1000 E. University Ave., Laramie, WY 82071. College students desiring a scholarship should contact the Professor of Military Science in 154 Wyoming Hall, (307) 766-3390.

Scholarships are offered to ROTC cadets from several military associations. The Reserve Officers Association (ROA), Association of the U.S. Army (AUSA), Cowboy Battalion Alumni Association (CBAA), the United Services Automobile Association (USAA) and First Command offer annual cash awards to ROTC cadets.

Room and board scholarships are available to students who enroll in Army ROTC. Scholarship awards are based on merit and the student's potential to become a commissioned officer. The number of scholarships and dollar amount vary dependent on funds available. Room and board scholarships may only be used in UW residence halls or university apartments.

Leadership Laboratory

Leadership laboratory provides instruction that complements the classroom. This time provides practical application on subject matter taught in class. Leadership and management dynamics are inherent in this practical application. All students enrolled in a military science course must enroll in the appropriate leadership laboratory unless consent is obtained from the Professor of Military Science. Training includes land navigation, first aid, communications, basic rifle marksmanship, drill and ceremonies, decision making, squad movement and problem solving. This instruction is cadet planned and presented with immediate instructor feedback. The goals of this period are to instill self-confidence, self-discipline and responsibility in each cadet.

Land navigation skills are practiced in a variety of terrain locations near campus. The training instills trust and confidence in the cadet's ability to accurately plot and follow a compass course. Communication, such as radio, telephone and interpersonal skills, are taught and practiced. Marksmanship is taught in the Half-Acre rifle range and on other ranges, weather permitting. Finally, drill and ceremonies teaches methods of organizing and moving groups of individuals in an orderly manner resulting in team building while establishing esprit de corps.

Veterans' Option

Veterans of active military service and members of the National Guard or U.S. Army Reserve may qualify to go directly into the advanced Army ROTC program if they will be an academic junior. In these cases, basic training fulfills the requirement of the first two years of ROTC (Basic Course). Academic freshmen and sophomores are not required to take basic course classes but are highly encouraged to do so. It is common for members of the National Guard to study to become commissioned officers via the ROTC program. The Simultaneous Membership Program (SMP) is a formalized program for advanced course Guard members and Reservists to combine their unit training with ROTC training. In many cases the SMP program will result in increased financial benefit to the individual.

Military Obligation

There is no military obligation for taking the basic course, freshman and sophomore years. When an individual starts the advanced course, he or she incurs an obligation. The nature of that obligation depends upon whether the individual elects to serve in the National Guard, the Army Reserve or the active Army, and whether the individual has an Army scholarship. Those who desire guard or reserve duty may contract specifically for that purpose. The guard and reserve obligation is six years of monthly training meetings and two years of inactive ready reserve (IRR). The active duty obligation is four years Active duty, and four years of inactive ready reserve (IRR).

Extracurricular Activities

Army ROTC offers a variety of activities which are designed to promote an interest in the military and provide relaxing, enjoyable leisure activities for cadets.

The Cowboy Battalion has its own Ranger Challenge team, which is a varsity-level team that competes with other universities in military skills such as orienteering and soldier skills. The battalion also has a cannon crew, mounted color guard, 10-miler team, Bataan Death March team, and participates in intramural sports.

The department periodically sponsors other activities such as rapelling demonstrations, ranger weekends, battlefield tours, leadership exercises and other adventure training, such as mountaineering, land navigation exercises, patrolling and wilderness survival.

Suggested Course Sequence

FRESHMAN YEAR:Fall Hrs.

ARMY 1010 2

Lab (mandatory).....0

PEAC 1272 (voluntary).....1/2

ARMY 1011 1

ARMY 3060 (voluntary).....1

FRESHMAN YEAR: Spring Hrs.

ARMY 1020.....2

Lab (mandatory).....0

ARMY 1012 1

SOPHOMORE YEAR: Fall Hrs.

ARMY 2010.....2

Lab (mandatory).....0

ARMY 2011.....1

ARMY 2060 (voluntary).....2

ARMY 3070 (voluntary).....2

SOPHOMORE YEAR: Spring Hrs.

ARMY 2020.....2

Lab (mandatory).....0

AMRY 2012.....1

HIST 2020 (mandatory).....3

JUNIOR YEAR: Fall Hrs.

ARMY 3010.....3

Lab (mandatory).....0

ARMY 3011 1

ARMY 3025 (mandatory).....1

ARMY 3070 (voluntary).....2

ARMY 3015.....1

JUNIOR YEAR: Spring Hrs.

ARMY 3020.....3

Lab (mandatory).....0

ARMY 3012.....1

ARMY 3026 (mandatory).....1

ARMY 3016 (mandatory).....1

SENIOR YEAR: Fall Hrs.

ARMY 4010.....2

Lab (mandatory).....0

ARMY 4011.....1

ARMY 3030 (voluntary).....3

ARMY 4025 (mandatory).....1

ARMY 4015 (mandatory).....1

ARMY 4050 (voluntary).....2

ARMY 3070 (voluntary).....2

SENIOR YEAR: Spring Hrs.

ARMY 4020.....2

Lab (mandatory).....0

ARMY 4012.....1

ARMY 4026 (mandatory).....1

ARMY 4016 (mandatory).....1

Department of Molecular Biology

203 Animal Science/Molecular Biology Bldg.

(307) 766-3300

Website: www.uwyo.edu/MolecBio/

Department Chair: Jesse "Jay" Gatlin

Modern biology is based on a fundamental understanding of molecular processes essential in living organisms. Recent advances in molecular biology have led to an explosion of knowledge about gene expression and the role gene products play in cell function. Undergraduate programs in molecular biology offer learning opportunities at the forefront of modern biology.

The molecular biology degree programs are designed to prepare students for the future by combining a foundation in basic sciences and humanities with a broad selection of courses in molecular biology, biochemistry, genetics and microbiology. Advanced undergraduates attend an outside speaker's program that includes some of the world's best-known scientists. Modern, well-equipped teaching and research laboratories contribute significantly to the educational experience of a student. All junior- and senior-level undergraduates are encouraged to participate in research projects with individual faculty members. Involvement in an active research program provides the student with an additional dimension of learning beyond what is assimilated in courses. A student learns to plan experiments, solve technical problems and experience scientific advances. An undergraduate research project also promotes close interaction between the undergraduate and graduate students, postdoctoral researchers, staff and faculty.

Many molecular biology majors continue their education beyond the bachelor's level by going to graduate school or to medical, dental or veterinary school. Some students choose to use their education to gain employment in biotechnology, clinical or basic research laboratories. Other career choices include teaching, medical technology, law and business. In addition, the Department of Molecular Biology offers the Ph.D., M.S. and M.A. degrees for students who wish to do graduate work in molecular biology, in preparation for careers in academia, the biotechnology and biopharmaceutical industry, medicine, or other professions.

Professors

DAVID FAY, B.S. Tufts University 1988; Ph.D. Yale University 1995; Professor of Molecular Biology 2010, 2001.

JESSE "JAY" C. GATLIN, B.S. University of Colorado-Boulder 1995; Ph.D. University of Colorado-Aurora 2005; Professor of Molecular Biology 2021, 2010.

MARK GOMELSKY, B.S. Moscow Institute of Chemical Technology 1986; M.S. 1988; Ph.D. Institute of Genetics and Selection of Industrial Microorganisms 1991; Professor of Molecular Biology 2011, 1999.

DONALD L. JARVIS, B.S. Idaho State University 1978; M.S. 1980; Ph.D. Baylor College of Medicine 1986; Professor of Molecular Biology 2000, 1998.

DANIEL L. LEVY, B.S. California Institute of Technology 2000; Ph.D. University of California San Francisco 2006; Professor of Molecular Biology 2021, 2011.

DANIEL WALL, B.A. Sonoma State University 1988; Ph.D. University of Utah 1994; Professor of Molecular Biology 2018, 2007.

CYNTHIA WEINIG, B.A. Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

Associate Professors

GRANT BOWMAN, B.S. University of Rochester 1997; Ph.D. University of Chicago 2004; Associate Professor of Molecular Biology 2019, 2012.

JASON GIGLEY, B.S. University of New Hampshire 1994; Ph.D. Dartmouth Medical School 2007; Associate Professor of Molecular Biology 2019, 2012.

PAMELA J. LANGER, B.S. Indiana University-Bloomington 1973; Ph.D. Massachusetts Institute of Technology 1980; Associate Professor of Molecular Biology 1994, 1987.

Assistant Professors

THOMAS BOOTHBY, B.S. Tulane University 2008; Ph.D. University of Maryland 2013; Assistant Professor of Molecular Biology, 2019.

EUNSOOK PARK, M.S. Seoul National University 2001; Ph.D. University of Tennessee, Knoxville 2010; Assistant Professor of Molecular Biology 2019.

TODD SCHOBORG, B.S. Murray State University 2008; Ph.D. University of Tennessee 2013; Assistant Professor of Molecular Biology, 2019.

Associate Lecturer

BRIDGET DECKER, B.S. Colorado State University 1998; Ph.D. Dartmouth College 2006; Associate Lecturer Molecular Biology, 2021, 2015.

Assistant Lecturer

KASSANDRA WILLINGHAM, B.S. University of Wyoming 2010, B.S. University of Wyoming-Casper 2017; M.S. Colorado State University 2016; Assistant Lecturer Molecular Biology 2020.

Instructional Teaching Laboratory Coordinator

HOLLY STEINKRAUS, B.A. Ripon College 1987; Ph.D. University of Wyoming 1993; Instructional Teaching Laboratory Coordinator, 2015.

Adjunct Professor

ANNE W. SYLVESTER, B.S. University of Washington 1980; M.S. 1982; Ph.D. 1987; Professor of Molecular Biology 2010, 2006.

Professors Emeritus

Dale Isaak, Randy Lewis, Nancy Petersen, Don Roth, Mark M. Stayton, Peter E. Thorsness, Jordanka Zlatanova

Department of Music

Music 2049 Buchanan Center for the
Performing Arts, (307) 766-5242
FAX: (307) 766-5326
Web site: www.uwyo.edu/music
Department Head: Ben Markley

Professors:

THERESA L. BOGARD, B.M. University of Colorado 1983; M.M. Eastman School of Music 1985; D.M.A. University of Colorado 1990; Professor of Music 2004, 1992. Keyboard, Keyboard Area Coordinator, Piano.

JOHN FADIAL, B.M. North Carolina School of the Arts 1987; M.M. Eastman School of Music 1989; D.M.A. University of Maryland 1995; Professor of Music 2015, 2008. Violin.

MICHAEL GRIFFITH, B.M.E. Michigan State University 1973; M.M. 1975; D.M.A. University of Colorado 1994; Professor of Music 2001, 1989. Conducting, Woodwinds.

J. SCOTT TURPEN, B.M.E. Boise State University 1994; M.M. University of Georgia 1996; D.M.A. 1999; Professor of Music 2012, 2001. Saxophone.

BLAKE MCGEE, B.M. University of Minnesota 2001; M.M. 2004; D.M.A. University of Oregon 2008; Associate Professor of Music 2016, 2010. Clarinet, Musicology.

BETH VANDERBORGH, B.M. Manhattan School of Music 1988; M.M. Eastman School of Music 1990; D.M.A. University of Maryland 1995; Associate Professor of Music 2014, 2008. Cello, Graduate Coordinator.

Associate Professors:

CRYSTAL SIEGER, B.M. Ohio State University 1992; M.M. University of Arizona 1994; Ph.D. 2012; Assistant Professor of Music 2014. Music Education.

BEN MARKLEY, B.M. Fort Hays State University 2005; M.A. New York University 2007; D.M.A. University of Colorado Boulder 2010; Assistant Professor of Music 2016. Jazz Studies.

TIGER ROBISON, B.M.E. University of Hartford 2005; M.S. Central Connecticut State University 2012; Ph.D. University of Hartford 2016; Assistant Professor of Music 2017. Music Education.

Assistant Professors:

JOSEPH CARVER, B.M.E. 2007 Ohio University; M.M. 2014 Ohio University; Ph.D. 2019 The Ohio State University. Associate Director of Bands.

BRIAN MURRAY, B.M. University of North Texas 2010; MME, Florida State University 2015; DMA, University of North Texas 2020. Assistant Professor of Music 2020. Choral Music Education.

DAVID WHARTON, B.M. Oberlin Conservatory 2009, M.M. Yale School of Music 2011, D.M.A. University of Connecticut 2019. Assistant Professor of Music 2020. Trumpet.

ANDREW WHEELOCK, B.M.E. Central Michigan University 2013; M.M. University of Illinois 2015; D.M.A. 2018. Assistant Professor of Music 2018. Percussion.

Academic Professional Lecturers:

JENNIFER TURPEN, B.M.E. SUNY-Potsdam 1996; M.M. University of Georgia 2000; D.M.A. 2000; Academic Professional Lecturer, Senior 2017, 2003. Theory, Saxophone.

ERIK ERLANDSON, B.M. DePauw University 2013; M.M. Louisiana State University 2015; D.M.A. University of Colorado Boulder 2020. Academic Professional Lecturer 2019. Choral.

Lecturers:

Will Flagg, O'Neil Jones, Nicole Riner, Magdalena Wór.

Part-time Lecturers:

Courtney Bress, Ryan Fourt, Alan Harvey, Alla Latchininsky, Kaori Uno-Jack, Seth Lewis, David Mesquitic, Susan Fritts, Greg Strampe, Heath Walton, Dan Watt, Brittany Bonner

Professors Emeriti:

Katrina Zook, Robert Belser, Steve Barnhart, David Brinkman, Gordon Childs, Julia Combs, Rodney Garnett, Frederick Gersten, Brian Hanly, Larry Hensel, Edgar Lewis, Kathleen McKeage, William Stacy, Carlyle Weiss

The Department of Music offers undergraduate and graduate degree programs which combine scholarship with performance, theory with practice and the academic with the creative. It also provides an opportunity for the study and performance of music by university students who are not majors in music. By giving concerts, workshops and lectures throughout the state of Wyoming through the Fine Arts Outreach Program, the music department serves as a musical resource for the entire state. The music department is fully accredited by the National Association of Schools of Music.

Procedures and requirements are listed in the music department *Student Handbook* which is available online at www.uwyo.edu/music/forms/index.html. The music department *Student Handbook* and the *University Catalog* are binding documents for the degree programs listed below. Students must receive a "C" or better in all courses designated MUSC to satisfy department requirements. The foreign language requirement for the Bachelor of Music in Performance Vocal Emphasis degree may be satisfied with a "C" or better in all courses. A student's transfer courses must meet all of these requirements to be accepted for credit.

An audition is required to become a Music major or minor. The 3 Steps to Becoming a Music Major are:

1. Apply for admission to the University of Wyoming (www.uwyo.edu/admissions/).
2. Audition for admittance as a Music major and for Music scholarships. Audition and scholarship information may be found at www.uwyo.edu/music. All Music majors and minors MUST audition to be admitted to the Music program.
3. Perform at an acceptable level, and you are in!

Degrees

Bachelor of Arts (with major in music): A program designed for the student who desires a broadly-based liberal arts program.

Bachelor of Music Performance: A fouryear course of study designed for students who wish to prepare for a professional career as performer and applied teacher.

Bachelor of Music Education: A fouryear course of study for the student who wishes to prepare for a career as a teacher of music in elementary or secondary schools in the instrumental, vocal, and general music fields.

Certificates

Music Entrepreneurship Certificate: The certificate provides a basic understanding of music marketing principles and practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management. A certificate may be pursued on its own or in conjunction with any university degree program. https://www.uwyo.edu/music/certificates/music_entrep_index.html

Audio Technology Certificate: The certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music workforce with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. Certificate may be pursued on its own or in conjunction with any university degree program.

Performer's (post-baccalaureate) Certificate

A non-degree course of study for the student seeking to improve professional performance skills. The program consists of a total of 30 credit hours from applied lessons, ensembles and electives to be selected in consultation with the major adviser. Prerequisites are demonstrated evidence of advanced performance proficiency through a live or recorded audition, undergraduate degree in music, and admission to the university.

Music for Other Students

Music as an elective subject. Students from other departments of the university may, with consent of their adviser and applied instructor, elect private or class lessons in applied music (with or without previous training) and may enroll in any theory, music literature or activity course for which they are qualified. See the music department Student Handbook for requirements for a minor in music.

Organizations. Performance organizations include the Happy Jacks, Marching Band, Symphonic Band, Wind Ensemble, Collegiate Chorale, Symphony Orchestra, Chamber Orchestra, Singing Statesmen, Bel Canto, Women's Choir, and Opera Theatre. Other groups are brass, woodwind, string, percussion and piano ensembles, Vocal Jazz, Civic Chorus and Jazz Ensemble. Membership is open to qualified students in all colleges and departments of the university. Each year, in addition to frequent appearances on the campus, several of these organizations and groups tour the region.

Music Fees

For Individual Instruction:

One 1/2-hour lesson weekly, per semester	$150.00
One 1-hour lesson weekly, per semester	$300.00

For Music 4510, 4520, 4530, 4540, 4550 and 4560 (courses taken in the form of private lessons) a fee of $85.00 is assessed each semester.

Practice Rooms:

per semester	$35.00

Music instrumental fee, per semester	$25.00
Music locker fee, per student per semester	$15.00
Public School Methods fee, per class	$5.00

Undergraduate Study

Learning Outcomes

Bachelor of Arts in Music

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Arts degree in Music, students will be able to: (1) demonstrate a level of competence as solo and ensemble performers appropriate for a musician educated in the liberal arts, (2) demonstrate specific knowledge in music theory, music history, and general studies appropriate for their professional goals, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

USP PN Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

Elective 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

Upper division MUSC electives.....6

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Diversity in the U.S. Course 3

Elective 3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Global Awareness Course 3

Upper division MUSC elective*.....3

Electives 6

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

USP COM3 Course.....3

Upper division MUSC elective.....3

Electives 6

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

Upper division MUSC electives*.....6

Electives 6

Degree Total 120

*Upper Division MUSC Electives: See complete list in Undergraduate Music Handbook.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this *Catalog*. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music in Performance

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirements students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All string and vocal emphases must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for those with little piano background. All wind and percussion emphases must pass Class Piano 1-2 with a B or better or may substitute the Piano Literacy exam in their place. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music degree in Performance, students will be able to: (1) demonstrate excellence as solo and ensemble performers to provide a basis for a professional career as a musician, (2) demonstrate specific knowledge in music theory, music history, and instrumental pedagogy to provide a basis for a professional career as a performing musician, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Upper Division Music Electives

Upper division music electives vary per emphasis. Please see the Undergraduate Music Handbook for a full listing.

Winds and Percussion Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Global Awareness Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP H Course 3

Elective 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP H Course 3

Elective 3

Degree Total 120

String Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2290.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2050.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4651.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....3

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Vocal Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2320.....2

MUSC 2270-06.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2325.....2

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....3

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4610 2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

UPS V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP PN Course 3

A&S Core Global Awareness Course 3

Degree Total 120

Keyboard Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4600.....2

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....5

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 4650.....3

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Bachelor of Music Education

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All music majors must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for majors with little piano background. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music Education degree, students will be able to: (1) demonstrate skill as solo and ensemble performers who can work as professional educators, (2) demonstrate specific knowledge in music theory, music history, and instrumental and vocal pedagogy to provide a basis for a professional career as a music educator, (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music, and (4) demonstrate the pedagogical background and teaching experience to function as effective K-12 music educators.

University and College Requirements

In addition to the major requirements listed below, students must complete all university requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music Education - Brass, Woodwind, & Percussion Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 1370.....1

MUSC 2000-level Applied Lessons II.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4070.....3

MUSC 4455.....3

MUSC 4705.....1

MUSC 4750.....1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4380.....2

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 121

Bachelor of Music Education - String Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1352 2

MUSC 1340.....1

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4715 1

MUSC 4465.....3

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 126

Bachelor of Music Education - Vocal Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

MUSC 2320.....2

MUSC 2270-06.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4790.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 124

Graduate Study

The Department of Music offers programs leading to the Master of Music in Performance and to the Master of Music Education.

The following prerequisites and credit hours will pertain to individual lessons for all the instruments and voice listed below. All students enrolled in MUSC 5080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in Individual Lessons.)

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Music requires that applicants for graduate programs submit supplementary documentation of their preparation for advanced study in music.

Those interested in graduate study in music are encouraged to contact the Graduate Studies Coordinator for the Department of Music, Dr. Beth Vanderborgh (bvander@uwyo.edu), or the Area Coordinator for each instrument or voice cited on the Department of Music website (www.uwyo.edu/music/).

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html):

- three letters of recommendation
- the Graduate Teaching Assistantship application
- academic transcripts

A minimum undergraduate cumulative GPA of 3.000 is required. The GRE is not required for admission consideration.

All accepted graduate students in the Mast of Music (MM) or Master of Music Education (MME) programs will take the Graduate Entrance Examinations in music history and music theory prior to matriculation. If a student does not pass one or more sections, they must take an online refresher course prior to undertaking advanced coursework.

International applicants who are not native English speakers must submit TOEFL or IELTS scores (TOEFL minimum = 76, IELTS minimum = 6.5). If an international applicant wishes to be considered for a Graduate Teaching Assistantship, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center if you have questions regarding the OPI (www.uwyo.edu/elc/international-teaching-assistants/graduate_admissions/index.html).

Applicants for the MM program should also request an audition and apply for music scholarship consideration via the Audition and Scholarships link found on the Graduate page of the Department of Music website (www.uwyo.edu/music/graduate_students/index.html). Applicants for the MME program should send their supporting documents (video of teaching/rehearsing, statement of music education philosophy, writing sample) directly to Dr. Crystal Sieger, Music Education Coordinator (csieger@uwyo.edu).

Master of Music Education

An earned, documented Bachelor of Music Education degree from an accredited institution of higher learning.

One year of teaching experience plus: An active background in music education, A DVD of classroom teaching and/or rehearsing,

A one- to three-page statement of music education philosophy,

Three letters of recommendation, one from an immediate supervisor, of teaching effectiveness.

A writing sample from an extensive undergraduate research paper.

Learning Outcomes

1. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing skills necessary to enhance their teaching abilities in a P-16 vocal and/or instrumental teaching position.

2. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing/and communication skills necessary to solve contemporary music problems.

Master of Music in Performance

An earned, documented bachelor of music performance or bachelor of arts from an accredited institution of higher learning.

Live audition (preferred), live remote video audition, or lnks to an online video demonstrating:

A strong sense of musicality, Technical proficiency, Stylistically correct performance practices in at least three historical periods, where applicable,

A working knowledge of the standard repertoire,

Also, a portfolio of work showing concentrated activity on the major instrument or voice area.

Learning Outcomes

1. Graduate students will be excellent performers on voice or instrument.

2. Graduate students will demonstrate the advanced musical and pedagogical knowledge and research writing stills necessary to begin their professional performing career and/or demonstrate their readiness to teach at the college and/or university level and/or pursue

doctoral degrees.

Program Specific Graduate Assistantships

Graduate assistantships are awarded on a competitive basis to defray some of the costs of graduate study and to provide practical experience working under the guidance of faculty members.

Criteria that are taken into account in awarding assistantships include: academic preparation, performing ability, and special skills that would prove valuable in carrying out the duties of the assistantship, as well as, needs of the department.

To be considered for a graduate assistantship, the candidate must be fully admitted through the university. The application for an assistantship is accessed via the UW Graduate Admissions application. After considering the merits of the application, the department then nominates candidates to the university. Applications for assistantships are due by February 15.

Program Specific Degree Requirements

Master's Programs

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Basic music core (11 hours)

MUSC 5310. Bibliographical Research, 2 hours

Upper-division music history, 3 to 6 hours

Upper-division music theory, 3 to 6 hours

Major area courses (12-16 hours)

Thesis requirement (Plan A, four hours); (Plan B, zero hours)

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

Electives (0 to 7 hours)

Master of Music Education Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic music core, (11 hours)

Major area courses (12 - 15 hours)

EDRE 5530. Introduction to Research, 3 hours

MUSC 5760. Music Education Seminar, 2 hours

MUSC 5720. Music Supervision, 2 hours

Music education electives, 5-8 hours

Thesis requirement (0 to 4 hours) Plan A:

MUSC 5960. Thesis Research, four hours (the thesis must be on a music education topic), or

Plan B: Plan B paper, plus extra courses, 0 hours Electives (4 to 7 hours)

Master of Music in Performance Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic music core (11 hours minimum)

Major area courses (16 hours minimum)

MUSC 5480-5670. Private Lessons in major instrument or voice. A minimum of 8 hours.

MUSC 5770-5890. Ensembles, 2 hours

MUSC 5680. Graduate Recital, 2 hours.

A faculty jury must approve a recital given for credit one month prior to the performance.The faculty jury will determine the grade after the performance.

MUSC 5390. Performance Practice and Interpretation, 2 hours

MUSC 5320. Advanced Seminar, 3 hours MUSC 4***. Pedagogy (instrument specific), 2 hours

Requirement in lieu of thesis:

Plan B paper, or 1-hour lecture-recital

Foreign language requirement (voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Both degrees require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music (MUSC)

Individual Lessons: All students enrolled in MUSC 2080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in individual lessons.)

Students must receive a "C" or better in all courses designated MUSC to satisfy department degree requirements. A student's transfer courses in music must also reflect a "C" or better to be accepted for credit.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB♦Q]).

Department of Philosophy and Religious Studies

Philosophy

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/philosophy/index.html
E-mail: philosophy@uwyo.edu
Department Head: Robert S. Colter

Professors:

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2013.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

SUSANNA L. GOODIN, B.A. Texas Technical University 1981; M.A. Rice University 1985; Ph.D. 1990; Associate Professor of Philosophy 1998, 1992.

EDWARD D. SHERLINE, B.A Princeton University 1982; M.A. University of Chicago 1983; Ph.D. University of Illinois-Chicago 1990; Associate Professor of Philosophy 1996, 1989.

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Associate Professor of Philosophy 2022, 2018.

Assistant Professor:

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Assistant Professor of Philosophy 2018.

Senior Lecturer:

ROBERT S. COLTER, B.A. The University of Puget Sound 1992; M.A. University of Colorado 1995; Ph.D. Northwestern University 2001; Senior Lecturer 2021, 2013, 2007.

Assistant Lecturer:

LINDSAY RETTLER, B.A. Biola University 2005; M.A. Western Michigan University 2010; Ph.D. The Ohio State University 2015; Assistant Lecturer 2022**.**

Professors Emeriti:

James Forrester, Richard L. Howey, James A. Martin

About the Program

Philosophy starts with those hard questions we all ask at some time or another. Some important questions of meaning and justification can't be answered by making observations or doing experiments. Philosophy is the effort to deal with these problems through sustained, hard, and critical thinking. Philosophy is good preparation for careers that call for you to use your mind, without prejudice but with rigor.

The Philosophy Department offers an undergraduate major, and three undergraduate minors.

For details on each of these programs, see the department's web site.

Religious Studies

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/relstudy/
Email: relstudies@uwyo.edu
Department Head: Robert S. Colter
Program Director: Tyler Fall

Professor

PAUL V. M. FLESHER, B.A. University of Rochester 1979; M.Phil. Oxford University 1982; Ph.D. Brown University 1988; Professor of Religious Studies 2012, 1993.

Assistant Professors

CATHERINE HARTMANN, B.A. University of Virginia in 2011, M.A. University of Chicago 2013, Ph.D. Harvard University 2020; Assistant Professor of Religious Studies 2020

TAMMY HEISE, B.A. Hendrix College 1998; M.A. Vanderbilt University 2006; Ph.D. Florida State University 2016; Visiting Assis¬tant Professor of Religious Studies 2015, Assistant Professor of Religious Studies 2020.

Senior Academic Professional Lecturer

TYLER S. FALL, B.A. Mary Washington College 1999; M.A. University of Oregon 2004; M.F.A. University of Wyoming 2009; Associate Academic Professional Lecturer of Religious Studies 2017, 2012.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 1999; Associate Academic Professional of Religious Studies 2017, 2012.

About the Program

Throughout history, religion has played an important role in shaping cultures and societies. Religious beliefs have inspired armies in their wars and leaders in their decisions. Re¬ligions have provided the foundation for ethi¬cal behavior and in many societies have been the primary source of education. In today's world, religions remain important, influencing our responses to 9/11, the Arab Spring, the Philosophy and Religious Studies, Middle East crisis, and other events in regions around the world. Even in our own secular United States, religions and their beliefs play a major role in our debates over public policy.

The Religious Studies department offers a range of courses in the academic study of reli¬gions. These courses seek to acquaint students with religious beliefs and behavior, helping them to understand the ability of religions to define the world in which their adherents live and the power religions have to influence the behavior of their followers. Religious Studies courses cover a broad range of religions, both modern and historical. Some courses focus on understanding a single religion in a limited time period, while others compare aspects of different religions. Yet further courses focus on religious expression, studying how religious beliefs are depicted in literature, film, art and music. Many of these courses are offered by the Religious Studies department, while others can be found in various departments, including anthropology, art, English, history and sociology.

Graduate Study

At present, no program for a graduate degree in religious studies is offered; however, some courses may be counted at the graduate level.

Department of Physics and Astronomy

204 Physical Sciences Building,
(307) 766-6150

FAX: (307) 766-2652
Web site: www.uwyo.edu/physics
Department Head: Jinke Tang

Professors:

MICHAEL S. BROTHERTON, B.S. Rice University 1990; M.A. University of Texas at Austin 1992; Ph.D. 1996; Professor of Physics and Astronomy 2014, 2002.

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Professor of Physics 2007, 2000.

TEYU CHIEN, B.S. National Taiwan Normal University 2001; Ph.D. University of Tennessee-Knoxville 2009; Professor of Physics 2019, 2013, 2023.

DANIEL A. DALE, B.S. University of Minnesota 1993; M.S. Cornell University 1996; Ph.D. 1998; Professor of Physics and Astronomy 2009, 2001.

HENRY A. KOBULNICKY, B.S. University of Iowa 1991; M.S. University of Minnesota 1993; Ph.D. 1997; Professor of Physics and Astronomy 2014, 2002.

ADAM D. MYERS, M.S. Durham University, United Kingdom 2000; Ph.D. 2004; Associate Professor of Physics and Astronomy 2017, 2011; Professor of Physics and Astronomy Fall 2022

H. EDWARD SEIDEL, B.S. College of William and Mary 1981; M.S. University of Pennsylvania 1983; Ph.D. Yale University 1988; Professor of Physics and Astronomy 2020.

JINKE TANG, B.S. Jilin University 1982; M.S. Iowa State University 1990; Ph.D. 1989; Professor of Physics 2007.

Associate Professors:

MICHAEL J. PIERCE, B.S. University of Oklahoma 1980; M.A. University of Hawaii 1983; Ph.D. 1988; Associate Professor of Physics and Astronomy 2005, 2001.

JIFA TIAN, B.S. Beijing Normal University 2003; Ph.D. University of Chinese Academy of Sciences/Institute of Physics, CAS 2009; Associate Professor of Physics 2018, 2023.

WENYONG WANG, B.S. Nankai University 1993; M.S. Yale University 1999; Ph.D. 2004; Associate Professor of Physics 2014, 2008.

Assistant Professors:

MERIDITH JOYCE, B.S. Bucknell University 2013; M.A. Dartmouth College 2015; Ph.D. Dartmouth College 2018; Assistant Professor of Physics and Astronomy 2024.

MAXWELL MOE, B.A./B.S. University of Colorado, Boulder 2009; M.A. Harvard University 2011; Ph.D. Harvard University 2015; Assistant Professor of Physics and Astronomy 2022.

ALEXANDER P. PETROVIC, B.A. & M.Phys. University of Cambridge 2003; M.A. (Cantab) 2006; Ph.D. University of Geneva 2009; Assistant Professor of Physics 2023.

YU-TSUNG TSAI, B.S. National Chiao Tung University 2004; M.S. 2006; Ph.D. University at Buffalo 2015; Assistant Professor of Physics 2024

Senior Academic Professional Lecturer:

RÜDIGER MICHALAK, Dipl. Phys FZ Julich 1989; Ph.D. 1993; Academic Professional Lecturer in Physics and Astronomy 2007, 2004.

Assistant Academic Professional Lecturers:

RICHARD E. BARRANS Jr., B.A. Johns Hopkins University 1985; Ph.D. California Institute of Technology 1993; M.Ed. John Carroll University 2004, Assistant Academic Lecturer in Physics and Astronomy 2013, 2023.

AYSENUR BICER, B.S. Ege University 2006; M.S. 2009; Ph.D. Texas A&M University 2018; Assistant Lecturer in Physics 2019.

Adjunct Professors:

GABRIELLE ALLEN, PU DU, PAUL MARQUARD, WILLIAM RICE, ZHAOHUI SHANG, TIM SLATER, HANNAH JANG-JANG-CONDELL, EDMUND SYNAKOWSKI, JIMMIE VERLEY

Professors Emeriti:

RONALD W. CANTERNA, PAUL E. JOHNSON, A.RAYMOND KUNSELMAN, TERRY P ROARK, JAMES M. ROSEN, DAVID R THAYER

Physics originated in antiquity as the study of natural philosophy. As such, it attempts to describe the universe within the context of both physical laws and the fundamental particles of nature. The broad scope of physics runs from the microscopic nuclear structure and that of the elementary particles themselves to the macroscopic, the galaxy and evolution of the universe as a whole. Today the subject is generally divided into broad areas such as condensed matter, nuclear, elementary particles, astrophysics, etc. The department maintains competence in most major branches of physics and offers instruction in these areas at both the undergraduate and graduate levels. In addition, it has a strong interest and involvement in science education.

Learning Outcomes

The B.S. and B.A. in Physics, the B.S. in Astronomy, and the B.A. in Physics and Physics Education all have the broad objectives enumerated below. These objectives are designed to promote the success of our majors in their chosen career path, whether that takes them into academia, secondary teaching, industry or further education:

1. Provide students with problem-solving and data-manipulation skills appropriate to the growing range of scientific and technological careers in academia or industry.
2. Develop students' oral, written, interpersonal and communication skills.
3. Provide students with skills in experimental design, data collection, and data analysis through research experiences in a laboratory/computational/telescope setting.
4. Educate students in the application of mathematical tools that will be useful for them to achieve success in a postcollege career.

5. Provide a conceptual and analytical uderstanding of the core areas of physics and their specialty area.
6. Provide students with an understanding of scientific reasoning, i.e., the roles of theory, hypothesis, and experiment in the scientific method.

The B.S. in Physics and the B.S. in Astronomy are primarily designed for students who wish to pursue post-graduate education or to have a more in-depth physics background. The Physics B.A. is primarily designed for students interested in pursuing a double major, or a professional career. The B.A. in Physics and Physics Education is structured for those interested in pursuing a secondary science teaching career.

Undergraduate Curriculum

The four-year physics programs are the Bachelor of Arts in physics and the Bachelor of Science in physics. The Bachelor of Science programs are intended for students who will pursue a career or a graduate degree in the field, whereas the Bachelor of Arts program is primarily geared toward those who are interested in pursuing physics as a second major. The department also offers a Bachelor of Science degree in Astronomy and Astrophysics.

Graduate Study

The Department of Physics and Astronomy offers the degrees of master of science in physics, master of science in teaching, and doctor of philosophy. Advanced degrees in physics may be based on experimental or theoretical research in physics or astrophysics.

Please refer to the departmental homepage at http://www.uwyo.edu/physics/ for the programmatic updates, or contact the department directly.

Program Specific Admission Requirements

We will begin to review applications in late January. Both the GRE general and physics subject exams are optional, and we will review all applications on their total merits. Students of all backgrounds, ethnicities, genders and countries of origin are encouraged to apply at http://www.uwyo.edu/admissions/apply-online.html

Applications should include:

-Resume or CV

-Undergraduate transcript

-A Personal Statement that says why you want to pursue a PhD, why Wyoming is a good fit for you, and what experiences you've previously had completing long-term projects

-Three letters of recommendation (this will be done through the application website)

-GRE scores Both the GRE general and physics subject exams are optional.

-TOEFL for non-native English speakers

-Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

The Physics and Astronomy Department commits to providing first- and second-year students with teaching assistantships for the nine-month academic year. More advanced students are generally supported on federal grants or fellowships. Both teaching and research assistantships carry a full tuition waiver and insurance. Summer assistantships are often available to students making satisfactory progress. Refer to http://www.uwyo.edu/physics/ for current amounts.

Department of Plant Sciences

Room 50 Agriculture Building
PHONE: (307) 766-3103
Website: www.uwyo.edu/plantsciences
Department Head: Andrew Kniss

Professors:

JIM HEITHOLT, B.S. Western Illinois University 1978; M.S. University of Missouri 1980; Ph.D. University of Kentucky 1984; Professor of Crop Physiology 2014.

ANDREW R. KNISS, B.S. University of Wyoming 2001; M.S. University of Nebraska-Lincoln 2003; Ph.D. University of Wyoming 2006; Professor of Weed Ecology and Management in Cropping Systems 2018, 2007.

BRIAN A. MEALOR, B.S. North Georgia College and State University 1999; M.S. University of Wyoming 2003; Ph.D. 2006; Director, Sheridan Research and Extension Center; Professor of Rangeland Restoration and Weed Science 2023, 2009.

URSZULA NORTON, B.S. Warsaw Agricultural University 1988; M.S. 1990; M.S. Iowa State University 1995; Ph.D. University of Montana 2000; Professor of Agroecology and Soil Science 2022, 2009.

Associate Professors:

RANDA JABBOUR, B.S. Rochester Institute of Technology 2003; Ph.D. Pennsylvania State University 2009; Associate Professor of Agroecology 2019, 2013.

Assistant Professors:

CLINT BEIERMANN, B.S. University of Wyoming 2012; M.S. 2017; Ph.D. University of Nebraska-Lincoln 2020; Assistant Professor, Forage Crop Production and Weed Management 2023.

KELSEY BROCK, B.S. University of Alberta 2010; M.S. 2014; Ph.D. University of Hawaiʻi - Mānoa 2021; Assistant Professor, Extension Weed Specialist (Invasive Plants) 2022.

JI-JHONG "JJ" CHEN, B.S. National Chung Hsing University, Taiwan 2018; M.S. Utah State University 2020; Ph.D. 2023; Assistant Professor, Horticultural Crop Physiologist 2023.

DONNA HARRIS, B.S. University of Georgia 1998; M.S. 2001; Ph.D. 2014; Assistant Professor of Plant Breeding and Genetics 2020.

Academic Professionals:

JENNA MEEKS, B.S. Colorado State University 2010; M.S. University of Wyoming 2016; Assistant Research Scientist 2021.

ELIZABETH MOORE, B.S. West Texas A&M University 2001; M.S. 2004; Assistant Lecturer of Horticulture and Plant Production 2021.

Emeritus/Retired Faculty:

Rollin H. Abernethy, James Cook, Ron Delaney, Mark Ferrell, Alan Gray, Robin W. Groose, Bernie Kolp, James M. Krall, Karen Panter, William Stump, Thomas D. Whitson, David Wilson

Plant Production and Protection Major (B.S.)

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection (Plant Production and Protection, B.S.), with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in, and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management

specialist, ecologist, research associate or technician, agronomist, biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the QuickStart Program section below or online at https://www.uwyo.edu/plantsciences/graduate-studies/quickstart-program.html.

Agronomy Minor (Agronomy Minor)

Minimum Requirements: 19 Hours

Agroecology Minor (Agroecology Minor)

Minimum Requirements: 20 Hours

Horticulture Minor (Horticulture Minor)

Minimum Requirements: 20 Hours

Plant Protection Minor (Plant Protection Minor)

Minimum Requirements: 19 Hours

Plant Production and Protection/Environment and Natural Resources Program, B.S.

(ENR and Plant Sciences)

Students interested in the environment and natural resources may choose to pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources. See the ENR Information and Advising Guide for details.

Graduate Study (M.S. and Ph.D.)

The Department of Plant Sciences offers curricula leading to the master of science and doctor of philosophy degrees in Plant Sciences. Courses within the department are offered in crop science, horticulture, plant pathology, weed science, and agronomy. Interdisciplinary coursework and research projects are common for Plant Sciences graduate students.

Program Specific Admission Requirements

In addition to university minimum requirements, a majority of the department faculty and department head must approve the admission. To be considered for admission, candidates must establish a faculty member willing to serve as advisor.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): a statement of purpose that describes your professional objectives and scientific interests, a current Curriculum Vitae, current academic transcripts, proof of English proficiency (if English is not your primary language) - TOEFL, IELTS, or Duolingo tests are currently accepted, and three letters of recommendation (to be submitted directly by references through the online application). At least two of the letters must be from current or previous university instructors or professional supervisors. Our regular deadlines for fall and spring semester admission are February 15 and October 15, respectively, although we will accept applications any time during the year.

Applicants whose undergraduate cumulative GPA is below 3.0 may be considered via the Professional Experience Track Admissions process if they have had at least two years of relevant professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions section under the "Admission to the University" section of this Catalog.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information, or visit UW's Graduate Education website at http://www.uwyo.edu/uwgrad/.

Program Specific Graduate Assistantship Information

M.S. assistantships include a stipend, plus tuition and fee waiver, and health insurance. Ph.D. assistantships include a stipend, plus tuition and fee waiver, and health insurance. These assistantships are for the 9-month academic year, but summer support is typically available.

Program Specific Degree Requirements

Master of Science in Plant Sciences

Plan A (thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Doctoral Program

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

QuickStart Program (Plant Sciences B.S/M.S.)

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit hour load. Up to six credit hours may be counted toward both the B.S. and M.S. degree programs.

Department of Psychology

135 Biological Sciences Building,
(307) 766-6303
FAX: (307) 766-2926
Web site: www.uwyo.edu/psychology
Department Chair: Sean McCrea

Professors:

KAREN BARTSCH ESTES, B.S. Colorado State University 1981; M.A. Oxford University 1983; Ph.D. University of Michigan 1988; Professor of Psychology 2007, 1992.

KYLE P. De YOUNG, B.S. University of Iowa 2004; M.A. State University of New York at Albany 2008; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

MATTHEW J. GRAY, B.A. Creighton University 1993; M.S. Drake University 1995; Ph.D. University of Mississippi 2000; Professor of Psychology 2014, 2002.

CYNTHIA M. HARTUNG, B.S. University of Wisconsin-Madison 1990; M.A. University of Kentucky 1993; Ph.D. University of Kentucky 1998; Professor of Psychology 2019, 2007.

ALISON R. LOOBY, B.A. University of California-San Diego 2002; M.A. State University of New York at Albany 2007; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

SEAN M. McCREA, B.A. Bucknell University 1996; Ph.D. Indiana University 2002; Professor of Psychology 2019, 2009.

CHRISTINE L. McKIBBIN, B.S. Michigan State University 1991; M.S. University of North Texas 1994; Ph.D. University of North Texas 1997; Professor of Psychology 2019, 2007.

CAROLYN M. PEPPER, B.S. Western Michigan University 1989; M.A. State University of New York at Stony Brook 1992; Ph.D. State University of New York at Stony Brook 1995; Professor of Psychology 2011, 2002.

BENJAMIN M. WILKOWSKI, B.A. Ohio University 2002; M.S. North Dakota State University 2005; Ph.D. North Dakota State University 2008; Professor of Psychology 2020, 2008.

Associate Professors:

JOSHUA D. CLAPP, B.A. University of Wyoming 2003; M.A. State University of New York at Buffalo 2008; Ph.D. 2012; Associate Professor of Psychology 2018, 2012.

MEREDITH E. MINEAR, B.S. University of Illinois at Urbana-Champaign 1994; Ph.D. University of Michigan 2004; Associate Professor of Psychology 2019, 2013.

Assistant Professors:

KAYLA A. BURD, B.A. Hofstra University 2010; M.A. Cornell University 2016; Ph.D. 2018; Assistant Professor of Psychology 2020.

ERIN HARRINGTON, B.S. Valparaiso University 2015; M.S. Oklahoma State University 2017; Ph.D. Oklahoma State State Universit, 2021; Assistant Professor of Psychology 2023.

CHRISTINA MCDONNELL, B.A. University of Notre Dame 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

HANNAH PHALEN, B.A. University of Colorado Colorado Springs 2015; M.S. Arizona State University 2018; J.D. Arizona State University 2019; Ph.D. Arizona State University 2023; Assistant Professor of Psychology 2023.

KASEY STANTON, B.S. Montana State University 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

Clinical Professors

CATHERINE P. CARRICO, B.A. Austin College; Ph.D. University of Northern Colorado; Clinical Associate Professor 2020.

ANNE STEVENS, B.A. Davidson College 2007, M.A. Appalachian State University 2014; Ph.D. University of Wyoming 2020; Clinical Assistant Professor of Psychology 2021.

Academic Lecturer:

JARROD BOCK, B.S. University of Wisconsin-La Crosse 2013; M.S. University of Wisconsin-Oshkosh 2015; M.S. Oklahoma State University, Stillwater 2017; Ph.D. Oklahoma State University, Stillwater; Assistant Lecturer in Psychology 2024.

TARA K. CLAPP, B.A. State University of New York at Buffalo 2005; M.S. Niagara University 2010; Senior Academic Professional Lecturer in Psychology 2018, 2012.

SCOTT FRENG, B.S. Black Hills State University 1995; M.A. University of South Dakota 1998; Ph.D. University of Nebraska - Lincoln 2001; Senior Lecturer in Psychology 2013, 2003.

MARIA I. KUZNETSOVA, B.A. Syktyvkar State University-Russia 2000; M.S. University of South Carolina-Aiken 2005; Ph.D. Virginia Commonwealth University 2011; Senior Academic Professional Lecturer in Psychology 2017, 2011.

Professor Emeritus

George Blau, David Estes, Charles J. Ksir, Karen B. Nicholas, Narina Nunez

Department Overview

The Department of Psychology offers coursework at several levels:

1. Introductory courses for students in other programs who wish an elementary knowledge of psychology.
2. Courses supportive of work in other majors.
3. An undergraduate major that is sufficiently flexible to allow students to prepare for graduate programs in psychology, professional schools (e.g. law, medicine) or for employment after graduation.
4. Graduate course work leading to the Ph.D. in clinical psychology, social psychology, cognition/cognitive development, or psychology and law.

Facilities are available for course work and laboratory experiences in areas of psychology such as clinical, cognition, personality, social, biological psychology, cognitive development, and psychology and law.

Students who wish to increase chances of employment related to their undergraduate majors should consult an adviser concerning areas of specialization within psychology.

Students planning graduate work in psychology should consult with their faculty adviser concerning career choices and development.

Credit by Examination

Credit by examination will be allowed only for PSYC 1000. The examination accepted is the College Level Examination Program (CLEP); the passing score is 50.

Advanced Placement

The psychology department will accept a score of 4 on the AP exam for credit in PSYC 1000, effective Fall 2015.

Department of Theatre and Dance

2099 Buchanan Center for the
Performing Arts, (307) 766-5100
Email: theatre_dance@uwyo.edu
Web site: uwyo.edu/thd/
Department Head: Christie Zimmerman

Professors:

CECILIA ARAGÓN, B.S. McMurry University 1991; M.A. University of New Mexico 1996; Ph.D. Arizona State University 2003; Professor of Theatre & Dance 2017, 2005.

CHRISTIE ZIMMERMAN, B.A. University of New Orleans 2000; M.F.A. University of California, Irvine 2002; Professor of Theatre & Dance 2023.

Associate Professors:

Assistant Professors:

ERIN CARTER, B.F.A. Webster University, 2016; M.F.A. University of Tennessee, Knoxville, 2019; Assistant Professor, Theatre & Dance, 2023.

MATTHEW GREENBERG, B.F.A. Ithaca College, 2015; M.F.A. The Ohio State University, 2021; Assistant Professor, Theatre & Dance, 2022.

SCOTT TEDMON-JONES, B.F.A. University of Wyoming, 2001; M.F.A Carnegie Mellon University, 2010; Assistant Professor, Theatre & Dance, 2018.

CAT KAMRATH MONSON, B.A. Loyola Marymount University, 2013; M.F.A. University of Utah, 2016; Assistant Professor, Theatre & Dance, 2022.

AARON WOOD, B.F.A. University of Wyoming, 2003; M.F.A. University of Utah, 2007; Assistant Professor, Theatre & Dance, 2022.

Assistant Lecturers:

JASON BANKS, B.F.A. University of Florida 2004; M.F.A. The Ohio State University 2007; Assistant Lecturer, FTRC, 2020.

LANDEE LOCKHART, B.T.D. University of Wyoming, 2001; B.A. University of Wyoming, 2001; M.F.A. University of Houston, 2006; Assistant Lecturer, FTRC, 2022.

JULIANA FREUDE, B.A. University of Toledo, 2018; M.F.A. St. Mary's College of California, 2020; Assistant Lecturer, FTRC, 2022.

Emeritus Professors:

Larry Hazlett, Rebecca Hilliker, Leroy Hodgson, Marsha Knight, Patricia Tate, Ron Steger, Lee Selting, Margaret Wilson

Degrees Offered

The Department of Theatre and Dance offers curricula leading to the Bachelor of Arts (BA) degree and the Bachelor of Fine Arts (BFA) degree and courses which fulfill a part of University Studies and various colleges' requirements, including the College of Arts and Sciences.

Curricula

Students may not take a course for S/U credit to satisfy course requirements in the major. This does not apply to courses offered for S/U only. Requirements for students majoring in the areas of the department are indicated below.

Theatre

The study of theatre provides students with a broad understanding of the art of theatre in a liberal arts college. The study of theatre is considered to provide a basis for more specialized theatre study in a graduate or professional school. The liberal arts education in theatre together with extensive experience in the production program also provides the foundation for a professional career in theatre, motion pictures, or television drama for those individuals with special desires and abilities. Secondary teaching certification in theatre can be obtained through this program of study.

Dance

The dance concentration within the Department of Theatre and Dance is designed to provide students with a broad foundation in the humanities and specific emphasis in performance and production aspects of dance. Students pursuing this course of study will have opportunities to attain technical competency in ballet and/or modern dance, to perform in yearly dance productions, to obtain practical experience in the fundamentals of teaching dance and to gain experience in technical theatre as an aid to dance production. The program seeks to provide a comprehensive view of dance as an artistically expressive medium, as well as a creative and recreational tool to human expression.

Students completing this program will qualify for more advanced private instruction as well as advanced academic instruction.

All dance students are matriculated into the BA degree. Students wishing to apply for the BFA in Dance Performance or BFA in Dance Science do so the second semester of their freshman year.

Students must receive a C or better in all courses designated THEA to satisfy department degree requirements. A student's transfer courses in Theatre and Dance must also reflect a C or better to be accepted for credit. A grade of C- does not meet the requirement.

Outcomes:

Our goal is to nurture artists and scholars within aesthetic, social, critical, historical and contemporary performance and dance idioms, who appreciate cultural literacy and respect diversity, who think critically, who master discipline-specific performance and production skills, and who foster knowledge and make compelling artistic choice on stage.

The Theatre and Dance Department expects that upon graduation all students will be able to:

- Demonstrate or detail the basic production process and make an informed assessment of quality in all areas of theatre and dance,
- Honor and represent historical, contemporary, and cultural diversity in academic and performance settings,
- Articulate the intersection of their personal, aesthetic, and social/political ideas in relation to a particular play, performance work or production,
- Develop collaborative skills, communicate effectively and function in a variety of contexts with self-knowledge, resilence, and resourcefulness, both in performance and in creation,
- Understand the demands and expectations of the profession,
- Synthesize and utilize knowledge from courses in the breadth of the discipline,
- Recognize and be familiar with postgraduate training opportunities in professional theatre, dance and academia.

Scholarships

A number of scholarships are available to interested majors in theatre and dance. Please visit www.uwyo.edu/thd/scholarships/index.html for more information.

Departmental Activities/ Organizations

The department sponsors one of the largest all-student activities on campus. Nearly 150 students take part in its productions each season. All students are eligible to participate in its productions through auditions.

Productions are mounted in the Buchanan Center for the Performing Arts which includes a flexible proscenium theatre, thrust theatre and experimental-studio theatre complete with scenic and costume support facilities.

Auditions are publicly announced for each production. Qualified students may receive credit in performance and production areas (THEA 2050).

Graduate Study

At present, no program for graduate degrees in theatre and dance is offered.

Department of Veterinary Sciences

Department of Veterinary Sciences and the Wyoming State Veterinary Laboratory

(307) 766-9925
FAX: (307) 721-2051
Web site: www.uwyo.edu/vetsci
email: vetscience@uwyo.edu
Department Head: Jonathan Fox

Faculty within the Department of Veterinary Sciences are engaged in teaching, research, and operation of the Wyoming State Veterinary Laboratory (WSVL). Instructional activities contribute to the ANVS and microbiology undergraduate majors. Graduate students within the department are enrolled in the ANVS or MCLS programs. There are opportunities for undergraduate students to obtain experience in research and/or veterinary diagnostic medicine. Faculty research interests span infectious diseases of companion animals, livestock, wildlife, as well as diseases transmissible to humans.

Professors:

JONATHAN H. FOX, B.Sc., B.V.Sc. University of Liverpool, UK 1993; Ph.D. Virginia Tech 2002; Associate Professor UW 2008; Professor UW 2016.

DAVID W. PASCUAL, B.S. University of Florida 1980; M.S. and Ph.D. 1985 and 1987; Professor of Immunology, Montana State University 2005; Professor of Immunology, University of Florida 2012; Wyoming Excellence Chair in Brucellosis UW 2024.

Associate Professors:

BERIT BANGOURA, D.V.M. Leipzig University 2003; Ph.D. 2008; Ph.D. 2015; Diplomate EVPC 2014; Assistant and Associate Professor UW 2017 and 2023 respectively.

MARIA FORZÁN, D.V.M. Universidad Nacional Autónoma de México 1997; M.S. and Ph.D. Atlantic Veterinary College 2000 and 2016; Assistant Professor Cornell University 2017; Associate Professor Long Island University 2019; Associate Professor UW 2023

RAPHAËL V. VANDERSTICHEL, D.V.M and Ph.D. Atlantic Veterinary College 2004 and 2011; Research Scientist and Assistant Professor, Atlantic Veterinary College 2014 and 2016; Associate Professor Long Island University 2019; Associate Professor UW 2024.

Assistant Professors:

ELIZABETH CASE, B.S. Oklahoma State University 2002; Ph.D. University of California-Irvine 2010; Assistant Professor UW 2020.

Clinical Assistant Professor:

JACQUELINE P. KURZ, B.S. Cornell University 2006; B.V.M.&S. Royal (Dick) School of Veterinary Studies, University of Edinburg, UK 2010; Ph.D. Utah State University 2018; Clinical Assistant Professor UW 2020.

LANI R. BOWER, B.S. Northeastern University 2003; M.S. and D.V.M. Colorado State University, 2019 and 2014; Clinical Assistant Professor UW 2023.

Instructional Professor:

AMY RHOAD, B.S. Molecular Biology/Environmental and Natural Resources. University of Wyoming. May 2014 B.S. Instructional Professor UW 2022. Microbiology. University of Wyoming. May 2014; Ph.D. Animal and Veterinary Sciences. Department of Veterinary Sciences. Instructional Professor Since 2022.

Adjunct Professor:

GEOFFREY J. LETCHWORTH, B.S. Trinity College 1965; D.V.M. New York State College of Veterinary Medicine 1972; Ph.D. Cornell University 1980; Adjunct Professor of Veterinary Sciences 2001.

JENNIFER L. MALMBERG, B.S. Doane University 2004; M.A. Chadron State University 2013; Ph.D. Colorado State University 2018; Adjunct Professor of Veterinary Sciences 2022.

ALEXANDERU-FLAVIU TABARAN, DVM, Ph.D., MSc, Habil., Diplomate ACVP (Anatomic Pathology) Adjunct Professor of Veterinary Sciences 2022.

SAMANTHA ALLEN, BSc and MSc University of Guelph 2007 and 2010; DVM Ontario Veterinary College 2014; PhD University of Guelph 2021; Adjunct Professor of Veterinary Sciences 2021

KERRY SONDGEROTH, B.A. University of New Hampshire 1997; D.V.M. Colorado State University 2006; Ph.D. Washington State University 2013; Assistant Professor of Veterinary Sciences 2014. Associate Professor of Veterinary Sciences 2020.

Professors Emeritus

E. Lee Belden, Francis D. Galey, Bill Jolley, Merl Raisbeck, Lynn Woodard, Gerry Andrews, Myrna Miller

The Department of Veterinary Sciences and the Department of Animal Science have combined their efforts to offer B.S., M.S., and Ph.D. degrees in animal and veterinary science (see listing under this title). Several options within the

major are available including preveterinary medicine and animal biology. Undergraduate course offerings of the Department of Veterinary Sciences are listed under the title of pathobiology. They were designed to familiarize students with the principles of animal disease and the basic biological and biomedical sciences.

The department operates the Wyoming State Veterinary Laboratory, an animal disease diagnostic laboratory (wyovet.uwyo.edu). This laboratory provides valuable hands-on experience for students interested in laboratory animal care, laboratory procedures, and research. Excellent faculty mentors are available for students interested in preveterinary medicine, microbiology, and animal biology.

Animal and Veterinary Sciences

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the Bachelor of Science degree in animal and veterinary science. Courses in animal science, food science, and disease biology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

Several degree options allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements. A grade of C or better must be earned in the following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, 3100, 4120, 4540, 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, 2022.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Graduate Study

The Department of Veterinary Sciences offers advanced study leading to the Master of Science and doctor of philosophy in animal and veterinary science. Areas of emphasis include: pathology, molecular diagnostics, bacteriology, virology, parasitology, epidemiology, immunology, and toxicology of wild and domestic animals.

Program Specific Admission Requirements

Open to students with a Bachelor of Science degree who meet the requirements set forth in this Catalog.

Recommended prerequisites include: chemistry, biochemistry, animal anatomy and physiology, biology, microbiology, and introductory statistics.

Preferred Requirements

Competitive applicants for either degree program will have a GPA 3.250 or higher and high GRE scores (153 verbal, 149 quantitative, 302 total using best composite scores).

Department of Visual Arts

110 Visual Arts Building, (307) 766-3269
Web site: https://www.uwyo.edu/art/
Department Head: Doug Russell

Professors:

ASHLEY HOPE CARLISLE, B.F.A. University of Southern Mississippi 1997; M.F.A. University of Georgia 2002; Professor of Art 2019, 2003.

RICKI KLAGES, B.F.A. University of Arizona 1984; M.A. University of New Mexico 1991; M.F.A. 1993; Professor of Art 2012, 1996.

DOUG RUSSELL, B.F.A. Columbia College 1990; M.A. University of Iowa 1995; M.F.A. 1996; Professor of Art 2019, 2005.

RACHEL SAILOR, B.A. Oregon State University 1992; M.A. University of Oregon 1994; Ph.D. University of Iowa 2007; Professor of Art 2023, 2011.

SHELBY SHADWELL, B.F.A. Washington University in St. Louis 2003; M.F.A. Southern Illinois University 2007; Professor of Art 2024, 2010.

Associate Professors:

PETER FINE, B.A. California State University, Chico 1993; M.F.A. University of Arizona 2004; Associate Professor of Art 2017, 2013.

BRANDON GELLIS, B.A. University of California at Santa Cruz 2002; M.F.A. University of Denver 2015; Associate Professor of Art 2021, 2015.

Assistant Professors:

KAIT ARNDT, B.F.A. Utah State University 2010, M.F.A. University of Missouri 2016, Assistant Professor of Art 2023.

XUHAO (HOWE) YANG, B.F.A. Guangzhou Academy of Fine Arts, Guangzhou, Guangdong China 2001; M.F.A. University of North Texas 2013; Ph.D. University of Arizona, 2024; Assistant Professor of Art 2024.

Senior Academic Professional Research Scientist:

DAVID L. JONES Jr., B.F.A. University of Georgia 2000; M.F.A. University of Tennessee 2004.

Assistant Academic Professional Lecturer:

TRACEY ECKERSLEY, B.A., Wilfrid Laurier University; M.A., McMaster University; M.M.St., University of Toronto; Ph.D., University of Louisville, 2016.

SAMARA JOHNSON, B.F.A. Sonoma State University 2013; M.F.A. University of Colorado-Boulder 2020

Senior Academic Professional Lecturer:

BAILEY RUSSEL, B.A. Princeton University 2001; M.A. New York University 2004.

Professors Emeriti:

Deaderick, Edwards, Evans, Flach, Forrest, Reif, Russin (Distinguished Professor of Art), Schaefer, Haydon, Hardy, Ritchie

Visual Arts

The Department of Visual Arts supports the creative, aesthetic and cultural development of students within the university community and serves the cultural and educational needs of the state. The department is dedicated to preparing its graduates to assume leadership positions in their professional lives while maintaining an inner commitment to the aesthetic standards of their chosen discipline. The department encompasses four major areas: Studio Art, Visual Communication Design, Art History, and Art Education.

The program fosters a unique combination of innovation, tradition, aestheticism and practicality, by providing a professional visual arts education built on a strong University Studies Program (USP) foundation.

Department Policy

A class within the Department of Visual Arts may require additional meeting times, so that students may fully participate in the Visiting Artist Program and the UWAM lecture series.

As a matter of policy, the Department of Visual Arts reserves the right to retain any works created by students it deems worthy for the purposes of exhibition until the end of the academic year.

The Department of Visual Arts studios are the primary instructional classrooms. As a matter of policy, access to the studios and use of the equipment is reserved for students who are formally registered for scheduled courses and are following a prescribed curriculum.

Scholarships

The department has several scholarships for qualified students at all stages in the program. See the Department of Visual Arts website for a full list of scholarships.

Academic and Career Advisement

Faculty advisers work closely with department students to guide and direct their progress through their declared degree program and course of study. Through the Visiting Artist and Scholar Program, the UW Art Museum and internship placements, the department provides numerous opportunities and role models for a professional life in the visual arts. Through consultation and discussion with faculty advisers, art students consider their interests and abilities in relation to the many and varied careers in the arts and art related fields. Many graduates go directly into industry, on to pursue graduate studies or take the next step in their career plan. On a competitive basis upon graduation, majors may participate in the Post Undergraduate Assistantship Program where they may prepare a portfolio for graduate school and/or gain additional experience in the studio and the classroom setting.

Undergraduate Majors

The University of Wyoming Department of Visual Arts offers five degrees:

- Bachelor of Arts in Art History
- Bachelor of Arts in Studio Art
- Bachelor of Arts in Art Education
- Bachelor of Fine Arts in Studio Art
- Bachelor of Fine Arts in Visual Communication Design

Transfer Residency

A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in all five of the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000- and above).

BA in Studio Art and BA in Art Education Majors - General Requirements

ART 1005, 1110, 1120 and 1130 are considered an important preparation and prerequisite for drawing, painting, printmaking, ceramics, sculpture and visual communication design courses and are required freshman courses for the majors. Studio Art and Art Education Majors must complete the Foundation Core Hours before electing upper division courses in any studio area. ART 2010, 2020, and 2305 are required sophomore courses.

Once sophomore BA in Art Studio and BA in Art Education majors complete course prerequisites, they select a minimum of four courses from the studio core hours. Most of the university and college requirements should be completed as early as possible before the senior year. The department will enforce published prerequisites for courses.

BA in Studio Art and BA in Art Education majors must submit a portfolio for evaluation in ART 2000: Portfolio Review before proceeding to intermediate and advanced studio and design classes (3000 and 4000 level) beyond the required Studio Core. Any student whose portfolio is assessed as deficient must address the deficiencies by retaking and passing Portfolio Review before receiving permission to advance in the major. Students who intend to apply into the BFA in Studio Art or the BFA in Visual Communication Design must first declare a BA in Studio Art and successfully pass ART 2000: Portfolio Review.

Please note: Any BA in Studio Art and BA in Art Education student who does not pass ART 2000: Portfolio Review on their first attempt may decide to re-take the class. However, failure to pass the review twice will render the student ineligible to progress in the Department as a BA in Studio Art, BFA in Studio Art , BA in Art Education, or BFA in Visual Communication Design major, although minors in the department and the BA in Art History remain open - as do all other majors and minors on campus. Any student who has failed to pass Portfolio Review twice may petition to take the review for a third time based on extenuating circumstances outside of their control. Students may only petition once and the decision on that petition is final. ART 2000: Portfolio Review will is offered in each fall, spring, and summer semesters.

Undergraduate Minors

Minors are offered in the following areas:

- Art History
- Ceramics
- Digital Media

- Drawing
- Metalsmithing
- Museum Studies
- Painting
- Photography
- Printmaking
- Sculpture

Further information may be found on the department's website.

Please note: B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design and B.A. in Art Education degree students cannot have a minor in a specific studio discipline. B.A. in Art History students may have a minor in studio disciplines, and B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design, and B.A. in Art Education degree students may have a minor in Art History and/or Museum Studies.

Department of Zoology and Physiology

114 Aven Nelson
(307) 766-4207
Web site: www.uwyo.edu/Zoology
Department Head: Robert S. Seville

Professors:

MERAV BEN-DAVID, B.S. Tel Aviv University 1984; M.S. 1988; Ph.D. University of Alaska 1996; Professor of Zoology and Physiology 2010, 2000.

MICHAEL E. DILLON, B.S. University of Texas, Austin 1998; Ph.D. University of Washington 2005; Professor of Zoology and Physiology 2021, 2009.

JACOB R. GOHEEN, B.S. Kansas State University 1998; M.S. Purdue University 2002; Ph.D. University of New Mexico 2006; Professor of Zoology and Physiology 2020, 2010.

MATTHEW J. KAUFFMAN, B.A. University of Oregon 1992; Ph.D. University of California, Santa Cruz 2003; Professor of Zoology and Physiology 2021, 2006.

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Associate Professor of Zoology and Physiology 2021, 2009.

FRANK J. RAHEL, B.A. Kenyon College 1974; M.S. University of Wisconsin 1977; Ph.D. 1982; Professor of Zoology and Physiology 1998, 1985.

ROBERT S. SEVILLE, B.S. San Diego State University 1981; M.S. University of Wyoming 1987; Ph.D. 1992; Professor of Zoology and Physiology 2011, 1995.

QIAN-QUAN SUN, B.Sc. Shandong Normal University 1990; M.S. 1993; Ph.D. St. Andrews University 1998; Professor of Zoology and Physiology 2016, 2004.

Associate Professors:

MATTHEW D. CARLING, B.S. University of Michigan 1997; M.S. University of Idaho 2002; Ph.D. Louisiana State University 2008; Associate Professor of Zoology and Physiology 2017, 2011.

ANNA D. CHALFOUN, B.A. Smith College 1995; M.S. University of MissouriColumbia 2000; Ph.D. University of MontanaMissoula 2006; Associate Professor of Zoology and Physiology 2016, 2011.

BRIAN D. CHERRINGTON, B.A. Washington University 1996; M.S. Colorado State University 2001; Ph.D. 2005; Associate Professor of Zoology and Physiology 2017, 2011.

AMY C. KRIST, B.A. State University of New York at Potsdam 1991; Ph.D. Indiana University 1998; Associate Professor of Zoology and Physiology 2017, 2004.

AMY M. NAVRATIL, B.S. Colorado State University 1999; Ph.D. 2005; Associate Professor of Zoology and Physiology 2019, 2011.

KARA PRATT, B.A.S. University of Delaware 1989; Ph.D. Brandeis University 2004; Associate Professor of Zoology and Physiology 2017, 2011.

COREY TARWATER, B.S. University of California, Davis 1999; M.S. University of Illinois, Urbana-Champaign 2006; Ph.D. University of Illinois, Urbana-Champaign 2010. Associate Professor of Zoology and Physiology 2022, 2015.

ANNIKA W. WALTERS, B.A. Princeton University 2002; M.S. Yale University 2006; Ph.D. 2009; Associate Professor of Zoology and Physiology 2019, 2011.

Assistant Professors:

NICOLE L. BEDFORD, B.S. University of British Columbia 2010; Ph.D Harvard University 2019; Assistant Professor of Zoology and Physiology 2021.

RILEY FEHR BERNARD, B.Sc. Linfield College 2007; M.Sc. University of Hawaii Hilo 2011; Ph.D. University of Tennessee 2015; Assistant Professor of Zoology and Physiology, 2020.

SARAH M. COLLINS, B.A. Lewis & Clark College 2007; Ph.D. Cornell University 2015; Assistant Professor of Zoology and Physiology 2018.

WILLIAM WARREN FETZER, B.S. University of Wisconsin-Madison 2005; M.S. Cornell University 2009; Ph.D. 2013. Assistant Professor of Zoology and Physiology 2020.

YUN LI, B.S. University of Science and Technology of Chine 1996; M.S. 1998; Ph.D. University of Texas Health Center at San Antonio 2003; Assistant Professor of Zoology and Physiology 2018.

JEROD A. MERKLE, B.S. University of Arizona 2006; M.S. University of Montana 2011; Ph.D. Univesité Laval 2014; Assistant Professor of Zoology and Physiology 2018.

ADAM C. NELSON, B.S. University of Montana 2001; Ph.D. University of Utah 2011; Assistant Professor of Zoology and Physiology 2021.

BRANDON ROBERTS, B.S. Washington State University 2009; Ph.D. Washington State University 2015; Assistant Professor of Zoology and Physiology 2023.

RAMMOHAN SHUKLA, B.S. College of Agriculture Nagpur 2004; M.S. Tamil Nadu Agricultural University 2006; Ph.D. National Institute for Basic Biology, Japan 2014 ; Assistant Professor of Zoology and Physiology 2023.

W.D. (TREY) TODD, B.S. Baylor University 2005; M.A. University of Iowa 2009; Ph.D. 2012; Assistant Professor of Zoology and Physiology 2019.

Assistant Professor of Practice:

BETHANN G. MERKLE, B.A. University of Montana 2007; M.F.A. University of Wyoming 2017; Assistant Professor of Practice 2021.

Senior Academic Professional Research Scientist:

ZHAOJIE ZHANG, B.S. Shandong University 1985; M.S. 1988; Ph.D. University of Oklahoma 1999; Director, Microscopy Core Facility, University of Wyoming 2001; Senior Research Scientist in Zoology and Physiology 2012.

Assistant Academic Professional Research Scientist:

JONATHAN PATRICK KELLEY, A.B. Harvard 2001; Ph.D. University of California, Davis 2012; Assistant Research Scientist in Zoology and Physiology 2018.

Professors Emeritus:

Craig W. Benkman, Harold L. Bergman, Steven W. Buskirk, Francis W. Flynn, Zoltan M. Fuzessery, Robert P. George, William A. Gern, Robert O. Hall, Henry J. Harlow, Wayne A. Hubert, Robert M. Kitchin, J.A. Lillegraven, Frederick G. Lindzey, James R. Lovvorn, Carlos Martinez del Rio, David B. McDonald, Graham Mitchell, James D. Rose, Joan Smith-Sonneborn

Academic Professional Lecturer Emeritus:

Jane Beiswenger

Wyoming Cooperative Fish and Wildlife Research Unit Unit:

Wyoming Cooperative Fish and Wildlife Research Unit Unit Leader: Matthew W. Kauffman
Assistant Unit Leader for Fisheries: Annika W. Walters
Assistant Unit Leader for Wildlife: Anna D. Chalfoun

Department of Zoology and Physiology

The Department of Zoology and Physiology offers a variety of courses in the biological sciences that encompass many aspects of animal form, function, and biology. Whether you are interested in the intricacies of cell biology or the complexities of ecosystem functioning and whether you want to become a wildlife biologist or a physician, we offer a major that will suit your needs.

Undergraduate Degrees:

Students can choose from three undergraduate degrees: physiology, wildlife and fisheries biology and management, or zoology.

Learning Outcomes for Undergraduates

The learning outcomes that direct the teaching of the department's degrees and which we expect our graduates to have acquired are:

- Competence in basic sciences;
- Competence in the content of the specific courses that constitute the principal knowledge of the degree;
- Ability to comprehend, analyze, and interpret biological data where appropriate; and
- Ability to synthesize information from the biological literature, and communicate it effectively in writing or orally.

Undergraduate Minors:

Minors in human and animal physiology, wildlife fisheries biology management, neuroscience, and zoology are offered.

Graduate Study

The Department of Zoology and Physiology offers programs leading to the master of science and the doctor of philosophy in zoology and physiology. We also participate in graduate programs through the Neuroscience Program and the Program in Ecology.

Program Specific Admission Requirements

Admission is open to all students who meet the minimum requirements set forth in the admissions section of this *Catalog*.

Research and teaching assistantships are available for graduate students working toward the M.S. or Ph.D. degrees. Applicants can apply for this financial assistance at the time they apply for admission to graduate standing. Applications must be completed by February 15 in order to be considered for the following academic year.

Information on how to apply to the graduate program in the Department of Zoology and Physiology is detailed on our web site. Begin by identifying a faculty member in our department whose research interests are similar to yours. We will only consider an application if a faculty member has indicated a willingness to serve as the student's adviser. After finding a potential adviser, e-mail a completed departmental application form, a copy of your curriculum vitae, copies of college transcripts, and recommendation letters to him or her. Our graduate admissions committee will review all applications and make decisions on admission based on the availability of funding and a commitment from a faculty member to serve as the adviser. Students recommended for admission will then be asked to fill out an application to the University of Wyoming and pay a non-refundable application fee.

Consult the website, www.uwyo.edu/zoology, to find out about faculty research.

Learning Outcomes for M.S. Students

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. College and analyze data to address a research question.
3. Summarize research findings and communicate them effectively in writing and orally.

Learning Outcomes for Doctoral Students

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. Develop a research project which constitutes a substantial and original contribution to the field of study.
3. Summarize research findings and communicate them effectively in writing and orally.

Division of Communication Disorders

265 Health Sciences, (307) 766-6427

FAX: (307) 766-6829

Web site: www.uwyo.edu/comdis

Director: Mark Guiberson

Professors:

MARK GUIBERSON, B.A. University of Colorado 1997; M.A. 1999; Ph.D. Colorado State University 2006; Professor of Speech-Language Pathology 2019, 2011.

DOUGLAS PETERSEN, B.A. Utah State University 1999; M.Ed. Utah State University 2002; Ph.D. Utah State University 2010.

Associate Professors:

BREANNA KRUEGER, B.A. University of Wyoming 2007; M.A. University of Kansas 2011; M.A. 2013; Ph.D. 2017; Associate Professor 2023, 2017.

Assistant Professors:

KATELYN J. KOTLAREK, B.S. University of Wisconsin-Madison 2012; M.S. Florida State University 2014; Ph.D. East Carolina University 2019; Assistant Professor 2019.

ZOE KRIEGEL, B.S. Kent State University 2016; M.S. Bowling Green State University, 2018; Ph.D. Bowling Green State University, 2022.

AMY K. PETERSON, B.S. University of Wyoming 2008; M.S. University of Wyoming 2010; Ph.D. Utah State University, 2022.

Lecturers:

SHELLEY BARTON, B.A. University of Wyoming 2005; M.S. 2008; Instructor 2018.

ESTHER HARTSKY, B.A. Adams State University 2000; A.A.S. Pikes Peak Community College 2004; MA University of Northern Colorado 2021, Assistant Lecturer 2017.

KARLEE SMITH, B.S. University of Wyoming 2014; M.S. University of Wyoming 2013; Lecturer 2020.

Clinical Professors:

TERESA J. GARCIA, B.S. University of Wyoming 1989; M.S. 1991; Clinical Professor 2020, 2016, 1995.

Associate Clinical Professors:

CORRI SANDOVAL, B.S. University of Wyoming 2000; M.S. 2010; Associate Clinical Professor 2020.

Assistant Clinical Professors:

HEIDI CLARK, B.S. University of Virginia 1998; M.A. Kent State University 2000; Assistant Clinical Professor 2020.

HANNAH YOUNG, B.S. University of Wyoming 2015; M.S. Pennsylvania State University 2017; Assistant Clinical Professor.

Adjunct Clinical Instructor:

Melissa Denker, M.S., CCC-SLP

Professors Emeriti:

Michael A. Primus, Mary Hardin-Jones, David L. Jones

About the Division of Communication Disorders

The Division of Communication Disorders offers three academic programs: a certificate in American Sign Language Studies, a Bachelor's of Science (B.S.) degree in Speech, Language and Hearing Science, and a Master of Science (MS) degree in Speech- Language Pathology. Information on these programs can be found on the links on the bottom of this page. The Division is also home to the University of Wyoming Speech & Hearing Clinic. Information about the Division's Vision, Mission, and Strategic Plan can be found on the Division website, as well as important information about the Division's Diversity, Equity, and Inclusion statement (https://www.uwyo.edu/comdis/index.html).

Speech and Hearing Clinic

The UW Speech and Hearing Clinic is a training center for students from the Division of Communication Disorders, including B.S. students in the Speech, Language, and Hearing Sciences program and M.S. students in the Speech-Language Pathology program. Student clinical experiences occur under the direct supervision of state licensed and ASHA-certified speech-language pathologists (CCC-SLP) The clinic also provides audiology services from a ASHA-certified and state licensed audiologists (CCC- A). In addition to on-campus services, the clinic provides telepractice speech-language pathology services. Clinical services are available to students, faculty as well as the larger community. More information can be found on the UW Speech and Hearing Clinic website: https://www.uwyo.edu/comdis/uw-speech-and-hearing-clinic/index.html.

Division of Kinesiology and Health

Corbett Building, (307) 766-5284
FAX: (307) 766-4098
Web site: www.uwyo.edu/kandh
Director: Derek Smith

Professors:

TAMI BENHAM DEAL, B.S. Indiana University 1981; M.S. 1988; P.E.D. 1989; Professor of Kinesiology and Health 2012.

CHRISTINE M. PORTER, B.S. University of Maryland 1993; M.A. University of London 2002; Ph.D. Cornell University 2010; Professor of Kinesiology and Health 2021, 2016, 2010.

TRISTAN WALLHEAD, B.S. Loughborough University 1994; M.S. Leeds Metropolitan University 2000; Ph.D. Ohio State University 2004; Professor of Kinesiology and Health 2017, 2010, 2004.

QIN ZHU, B.S. Shanghai University of Sports 1999; M.Ed. 2002; Ph.D. Indiana University 2008; Professor of Kinesiology and Health 2020, 2014, 2008.

BOYI DAI, B.Ed. Beijing Sport University 2007; M.S. Iowa State University 2009; Ph.D. University of North Carolina at Chapel Hill 2012; Professor of Kinesiology and Health 2022, 2017, 2012.

BRYANT SMALLEY, B.S. Georgia Southern University 2002; M.S. Nova Southeastern University 2005; PhD Nova Southeastern University 2010.

JACOB WARREN, B.S. Georgia Southern University 2003; M.B.A. Georgia Southern University 2016, PhD Miami School of Medicine 2006

BRANT SCHUMAKER, B.S. University of California - Davis, 2001; D.V.M University of California - Davis, 2005; M.P.V.M. University of California - Davis, 2006; Ph.D. University of California - Davis, 2010; Professor of Kinesiology and Health 2022, 2016, 2010.

Associate Professors:

EVAN C. JOHNSON, B.A. The George Washington University 2004; M.A. University of Connecticut 2008; Ph.D. 2014; Associate Professor of Kinesiology and Health 2020, 2015.

DEREK SMITH, B.S. Colorado State University 1997; M.S. Wake Forest University 1999; Ph.D. University of Colorado 2003; Associate Professor of Kinesiology and Health 2009, 2003.

DANIELLE BRUNS, B.S. Linfield College-McMinnville 2008; M.S. Colorado State University 2010; Ph.D. 2013; Associate Professor of Kinesiology and Health 2018, 2022.

Assistant Professors:

BEN KERN, B.A. Western Colorado University 1999; M.A. Adams State University 2002; Ph.D. University of Illinois Urbana-Campaign 2017; Assistant Professor Kinesiology and Health 2020.

EMILY E. SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina at Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor of Kinesiology and Health 2018.

KELLY SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016; Ph.D. Louisiana State University 2018; Assistant Professor of Kinesiology and Health 2021.

LAUREN GILBERT, B.S. Marquette University, 2009; M.A. University of Florida, 2012; M.P.H. University of Florida, 2015; Ph.D. University of Florida, 2015; Assistant Professor of Kinesiology and Health, 2023.

Senior Lecturers:

MARCI SMITH, B.S. Colorado State University 1995; M.S. Wake Forest University 1998; Senior Lecturer in Kinesiology and Health 2015, 2003.

RACHEL WATSON, B.S. University of Denver 1998; M.S. University of Wyoming 2001; Senior Lecturer in Kinesiology and Health 2022.

Assistant Lecturers:

LACEY GAECHTER, B.A. University of Colorado 2004; M.S. University of Wyoming 2016; Assistant Lecturer in Kinesiology and Health 2021

SANDY GOHEEN-SMITH, B.S. Montana State University, Billings 1995; M.S. University of Wyoming 2015.

JACOB LAYER, B.A. Capital University 2015; M.S. University of Wyoming 2017

ALISA SICELOFF, VMD University of Pennsylvania 1997, Assistant Lecturer in Kinesiology and Health 2021

ANGELA SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016.

Adjunct Faculty:

MIKE COTTERMAN, SHANE TWEETER, GRETCHEN SEWCZAK-CLAUDE

Professors Emeriti:

Paul Dunham, Ward Gates, Charles W. Huff, Donna Marburger, D. Paul Thomas, Mark Byra, Jayne Jenkins

The Division of Kinesiology and Health offers the Kinesiology and Health (K&H) major and the Physical Education Teacher Education (PHET) major. These two majors prepare students for a variety of clinical and nonclinical settings including teaching physical and health education in schools K-12. Students enrolled in these programs must meet

academic standards as determined by the Division of Kinesiology and Health, College of Health Sciences, and the University of Wyoming.

The K&H major prepares students for admission to physical therapy school and occupational therapy school, as well as other health professions (e.g., physician, physician assistant, dentist, chiropractor, optometrist, etc.). Approximately 60% of students majoring in K&H apply to one of these health professional schools once they have completed their B.S. degree in Kinesiology and Health. Other students majoring in training, fitness, recreation and leisure, and community and public health enter a very diverse job market.

The PHET program prepares students to teach physical and health education (PHET) in K-12 schools. The PHET major is a nationally recognized program for meeting the AAQEP/NASPE Initial Physical Education Teacher Education Accreditation Standards. This program offers individuals opportunity to combine certifications/endorsements in health education K-12, adapted physical education K-12, and coaching.

A graduate program leading to a Master of Science degree in Kinesiology and Health is offered by the Division.

Professional Program

Students who meet University of Wyoming entry requirements are admitted to the university in one of the two undergraduate majors that leads to the Bachelor of Science degree. The Division's undergraduate majors are open at the freshman level to all graduates of accredited high schools. Advanced placement for students with previous college credit is based on evaluation of transcripts of previous academic work.

Students in the Kinesiology & Health (K&H) program are ready to move forward in the junior year of the program when they complete the pre-requisite requirements to enroll in KIN 3021 and KIN 3022, Physiology of Exercise lecture and laboratory. To be eligible for the K&H Professional Program (junior/senior years), students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Advancement in the K&H Professional Program is complete once prerequisite criteria is met.

The entry course for admission to the Physical Education Teacher Education (PHET) program is KIN3012 - Teaching Laboratory I. To be eligible, for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Admission to the last two years of the PHET major is a competitive process and is only conducted for Fall semester. Application to the PHET majors is conducted only for fall. The application deadline is early April.

Undergraduate Majors

Kinesiology and Health Promotion, B.S.

Physical Education Teacher Education K-12, B.S.

Additional School Endorsments K-12

Adapted Physical Education K-12 Endorsement

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement / Permit

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

Graduate Study

Program Specific Admission Requirements

Admissions into the M.S. degree program are open to people who have obtained an undergraduate degree with a major program of study in exercise and sport science, health, kinesiology, physical education, or other areas in human movement sciences. Students who have undergraduate degrees in other areas may be required to complete additional courses, including Human Anatomy, Human System Physiology, Exercise Physiology, and other Kinesiology and Health classes recommended by the advisor. Individuals interested in applying are encouraged to contact the Graduate Program Coordinator, Dr. Boyi Dai (bdai@uwyo.edu), for more information.

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html): K&H supplemental application, transcripts, statement of intent, a sample of professional writing, and three letters of recommendation. Applications must be submitted no later than February 1 to be considered for Fall admission; Spring admissions are also considered on a case-by-case basis. More information about the application can be found on the Division's website (http://www.uwyo.edu/kandh/future-graduate/graduate-application.html).

A minimum of a 3.0 undergraduate cumulative GPA is also necessary for admission. GRE scores are not required for admission or graduate assistantship consideration but can be submitted to enhance the application. International students who are not native English speakers are required to provide proof of English proficiency: http://www.uwyo.edu/admissions/international/requirements-graduate.html. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also meet additional English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Polices in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

Graduate assistantships are available on a competitive basis. Teaching opportunities exist within the laboratory portions of the human anatomy and Kinesiology and Health courses and the teaching laboratory portions of the pedagogy practical courses. A graduate assistantship also involves some research opportunities with assigned graduate faculty advisors.

A stipend for a full-time graduate assistant is $12,825.00 per academic year. Tuition and fees are covered according to the percentage of assistantship allocated to the student.

Program Specific Degree Requirements Master's Programs

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Health Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, M.S. *Plan B (paper and experiential learning option)*

Kinesiology and Health Distance Education, M.S. *Plan B (paper)*

Division of Medical Education

Family Medicine Residency Programs

https://acalogcatalog.uwyo.edu/preview_entity.php?catoid=9&ent_oid=1779&returnto=964

Designated Institutional Officer: Beth Robitaille

(307) 234-6161

Casper: Brian Veauthier, Director

(307) 234-6161
Cheyenne: Evan Norby, Director
(307) 777-7911

Professors:

JAIME HORNECKER, B.S. Texas Tech University 1999; PharmD University of Wyoming 2003; Clinical Professor of Pharmacy Practice, School of Pharmacy, Family Medicine, Casper.

MICHAEL MILLER, B.A. Wheaton College 1992; D.O. Kirksville College of Osteopathic Medicine 2000, Clinical Professor of Family Medicine, Casper.

BETH ROBITAILLE, B.A. University of Notre Dame 1991; M.D. Creighton University School of Medicine 1995; Clinical Professor of Family Medicine, Casper.

BRIAN M. VEAUTHIER, B.S. University of Notre Dame 1996; M.D. Georgetown University School of Medicine 2001; Clinical Professor of Family Medicine, Casper.

Associate Professors:

ZACH DEISS, B.A. University of Wyoming 1979; M.D. Creighton University School of Medicine 1987; Clinical Associate Professor of Family Medicine, Casper.

RONALD L. MALM, B.S. University of Wyoming 1988; D.O. The University of Health Sciences, College of Osteopathic Medicine 1992; Clinical Associate Professor of Family Medicine, Cheyenne.

LEENA MYRAN, B.S. University of Wyoming 2012; PharmD. University of Wyoming School of Pharmacy 2012; Clinical Associate Professor of Pharmacy Practice, Family Medicine, Casper.

SHARON KARNES, B.S. University of Washington School of Medicine 1997; M.D. University of Washington School of Medicine 2001; Clinical Associate Professor of Family Medicine, Casper.

CAROLINE KIRSCH, B.S. University of Wyoming 1993, 2002; M.S. University of Wyoming 1996; D.O. New York College of Osteopathic Medicine 2007; Clinical Associate Professor of Family Medicine, Casper.

CYNTHIA WORKS, B.A. Creighton University 1981; M.D. University of Arizona College of Medicine 1985; Clinical Associate Professor of Family Medicine, Casper

Assistant Professors:

RITA BARRY DO, Assistant Professor at Cheyenne program - University of Oregon Bachelors in Biochemistry 2012, Oregon Health and Science University Doctorate of Medicine 2017

JODY COUSINS MD, Assistant Professor at Cheyenne program - University of Wyoming Bachelors of Science in Psychology 1999, University of Washington School of Medicine 2006 Doctorate of Medicine

JAMES EGGERT, MD, Assistant Professor at Cheyenne program - University of California 2010 Bachelors in Bioengineering : Premedical, San Juan Bautista School of Medicine 2019 Doctorate of Medicine

BLAINE LEVY, B.S. Midwestern University 2008; D.O. Arizona College of Osteopathic Medicine of Midwestern University 2012; Clinical Assistant Professor of Family Medicine, Casper.

EVAN NORBY, B.S. Brigham Young University 2007; D.O. Arizona College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Cheyenne.

LAVINIA SALAMA PhD, Assistant Professor at Cheyenne program - -Doctor of pharmacy (PharmD) with concentration in nephrology, Albany College of Pharmacy and Health Sciences in Albany, NY- May 2020, -PGY1: general residency at Southeast Hospital in Cape Girardeau, MO - June 2021, PGY2 in Ambulatory Care at Albany College of Pharmacy and Health Sciences - July 2022

TABITHA THRASHER, B.S. University of Central Missouri 2001; D.O. Rocky Vista College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Casper.

Lecturers

LAURA CAPASSO, B.A. University of Wyoming 2012; M.S. University of Wyoming 2014; Ph.D. University of Northern Colorado, 2019; Assistant Lecturer, Family Medicine, Cheyenne.

BURL MAURER, B.A. Kennesaw College 1984; M.S.W. University of GA School of Social Work 1988; Associate Lecturer, Family Medicine, Casper.

PAMELA OILER, B.S.W. University of Wyoming 1999; M.S.W. Colorado State University 2005; Associate Lecturer, Family Medicine, Cheyenne.

To address the need for broadly trained primary care physicians in Wyoming, the Wyoming Legislature established two residency programs in the specialty of family medicine. These two accredited, university-administered, community-hospital based family medicine residency programs are located in Casper and Cheyenne. They enroll up to 42 residents (14 in each of three years). The two family medicine centers maintain a 1:4 faculty to resident ratio. The program at Casper began in 1976 and is affiliated with Wyoming Medical Center. The program utilized the services and facilities provided by the Educational Health Center of Wyoming. The Rural Training Track Program is a partnership with the Casper core program and Hot Springs County Memorial Hospital that provides a unique, hands-on experience for rural practice by training in the rural community of Thermopolis, Wyoming. It enrolls up to 3 residents (1 in each of three years). Casper's Geriatric fellowship is Wyoming's only post-graduate medical education training program. The fellowship provides training specialized in geriatrics to produce Board-certified geriatricians to care for the state's aging population. The Cheyenne program became active in 1980 and is affiliated with Cheyenne Regional Medical

Center. The program utilizes the services and facilities provided by the Educational Health Center of Wyoming and has a close working relationship with the Veterans Administration Hospital. Both centers include spacious examining rooms; treatment and casting rooms; x-ray facilities; offices for faculty, residents and staff; complete laboratories; multiphasic research areas; conference rooms; business offices and roomy waiting rooms with play areas in the clinical component. In the educational component, both include large auditoriums; learning resource centers and administrative offices. Particular emphasis in both centers is placed on preparing physicians for rural practice and other facets of medical practice that are unique to Wyoming.

WWAMI Medical Education Program

Laramie: TBD, Director
(307) 766-2496 (Front Office)
John Willford, Assistant Director
(307) 766-4249
Web site: www.uwyo.edu/wwami

Associate Professors

CAMERON WALKER, B.S. Iowa State University of Science and Technology 1996; M.A. Iowa State University of Science and Technology 2000; Ph.D. University of Oregon 2006; Clinical Associate Professor, WWAMI.

JOHN WILLFORD, B.S. University of Wyoming 2005; Ph.D. University of Wyoming 2008; Clinical Associate Professor, WWAMI.

Assistant Professors

DANIELLE BRUNS, B.S. Linfield College 2008; M.S. Colorado State University 2010; Ph.D. Colorado State University 2013; Assistant Professor Kinesiology & Health, WWAMI.

ESTHER GILMAN-KEHRER, B.S. University of Wyoming 1986; M.S. University of Wyoming 1998; Post-Master's F.N.P. University of Colorado 2000; Post-Master's Nurse Midwifery 2002; D.N.P. University of Colorado 2012; Clinical Assistant Professor, Fay W. Whitney School of Nursing, WWAMI.

DANA GOVAERTS, B.S. University of Nebraska 1988; M.D. University of Nebraska Medical Center 1992; Clinical Assistant Professor, WWAMI.

DANIEL RADOSEVICH, B.S. University of Wyoming 1985; M.D. University of Colorado Medical School 1991; Clinical Assistant Professor, WWAMI.

EMILY SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina-Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor Kinesiology & Health, WWAMI.

The University of Wyoming medical contract program enhances medical education opportunities for Wyoming residents. In March 1996, the University of Wyoming became a partner in the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) Program. The WWAMI program is Wyoming's medical school and the program delivers the first two years of the University of Washington School of Medicine (UWSOM) medical school curriculum on the University of Wyoming campus. The remaining two years of the curriculum are spent in clinical rotations throughout

the five-state WWAMI region. Twenty Wyoming residents are accepted into the WWAMI program each year and receive their M.D. degree from the UWSOM. For further information, contact the Wyoming WWAMI Office, College of Health Sciences, Laramie, Wyoming 82071, (307) 766-2496.

Wyoming WWAMI Medical Education Program

FIRST YEAR: Summer Hrs.

HM 6710.....9

FIRST YEAR: Fall Hrs.

HM 6603.....2

HM 6720.....7

HM 6730.....7

Total Hrs. 16

FIRST YEAR: Spring Hrs.

HM 6602.....2

HM 6603.....2

HM 6740.....5

HM 6750.....5

HM 6755.....1

HM 6760.....6

HM 6770.....5

Total Hrs. 26

SECOND YEAR: Fall Hrs.

HM 6602.....2

HM 6603.....2

HM 6775.....3

HM 6800.....7

HM 6900.....5

Total Hrs. 19

Division of Social Work

Health Sciences Building, (307) 766-6112
FAX: (307) 766-6839
Web site: www.uwyo.edu/socialwork
Division of Social Work Director: Valerie Thompson-Ebanks, Ph.D., MSW

Associate Professors:

NEELY MAHAPATRA, B.Sc. Utka l University, India 1991; M.Sc. 1993; M.S.S.W. University of Texas-Austin 2003; Ph.D. 2008; Associate Professor of Social Work 2016.

VALERIE THOMPSON-EBANKS, B.Sc. University of the West Indies 2002; M.S.W. 2007; Ph.D. Colorado State University 2012; Associate Professor of Social Work 2018.

Assistant Professors:

MARGARET HOLLAND, B.S.W. Mississippi College 2012; M.S.W. University of South Carolina 2013; Ph.D. Florida State University 2021; Assistant Professor of Social Work 2022.

SANDY LEOTTI, B.A. Prescott College 2002; M.S.W. University of Montana 2006; Ph.D. Portland State University 2019; Assistant Professor of Social Work 2019.

SUKYUNG YOON, B.A. Chung-Ang University 2002; M.S.W. Yonsei University 2008; Ph.D. University of Tennessee 2019; Assistant Professor of Social Work 2019.

Assistant Lecturers:

BILLIE CHAPMAN, B.A. University of Wyoming 2005; M.S.W. 2008; Assistant Lecturer of Social Work 2018.

BETHANY CUTTS, B.S.W. University of Wyoming 2003; M.S.W. 2005; Assistant Lecturer of Social Work 2023.

SARAH S. GREEN, B.A. University of Wyoming 2015; M.S.W. 2019; Assistant Lecturer 2021.

CHRISTINE VENCILL, B.S.W. University of Wyoming 2013; M.S.W. 2016; Assistant Lecturer of Social Work 2023.

Social workers are uniquely qualified to help people in their own environments by looking at different aspects of their lives and cultures. We work to ensure the client's personal well-being, prevent crises, counsel individuals, support families, and strengthen communities. We make sure people get the help they need, with the best resources available.

For more than 100 years, social workers have cared for people in every stage of life. Social workers help others overcome life's most difficult challenges and manage the troubles of everyday living, including the troubles that exist due to poverty, stress, addiction, abuse, unemployment, mental illness, family change, and social violence. Social workers advocate for social justice.

Undergraduate Study

The Division of Social Work prepares students for entry-level generalist social work practice. Two locations offer the social work program: the Laramie campus and the University of Wyoming-Casper campus. Graduates receive a Bachelor of Social Work (BSW) and are prepared to work as generalist social work practitioners with individuals, groups, families, organizations, communities, and institutions to achieve more effective and efficient social functioning.

Our program is accredited by the Council on Social Work Education. The curriculum is designed to help students acquire important knowledge and skills in the areas of values and ethics, diversity, social and economic justice, human behavior and the social environment, social welfare policy and services, social work practice, and research. A competency-based curriculum prepares students to meet an "initial level" of competence in nine core areas (CSWE, 2015). Students also select elective courses in areas such as aging, child and adolescent services, health and mental health, and disability services. The program culminates in a 450-hour supervised field practicum, which allows students to work as social workers in one of Wyoming's many human service agencies.

Social Work Major

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Application for Admitted Major status are due in the middle of the Spring semester or in the middle of the Fall semester. Students should apply during the semester they are completing all social work prerequisite courses. Acceptance to Admitted Major (professional degree program) is competitive and requires an application. Please see application requirements on the Division of Social Work website. Students accepted into the professional degree program are expected to complete their degree in a timely manner. Students who have not completed social work classes for one year or more must reapply for Admitted Major and submit a plan for readiness to continue in the social work degree program. A plan may include, but is not limited to, repeating or auditing a course taken at an earlier point in the student's academic experience, completing an independent study that may provide updated social work content for the student, demonstrating knowledge or practice skills. Readmission is not guaranteed.

Criteria for Admission as an Admitted Major

The admissions process is competitive. Students must meet the following minimum criteria to be considered for Admitted Major status.

1. Students must earn a minimum grade point average (GPA) of 2.50000 on all UW coursework as well as all coursework transferred into the University of Wyoming from other acadmemic institutions.

2. Complete the following prerequisites: a. SOC 1000 b. PSYC 1000 c. POLS 1000 d. SOWK 2000 e. Human Biology (PSYC 2080 or KIN/ZOO 2040) f. STAT 2070 g. ECON 1010

3. Students must earn a grade of C or higher in all SOWK prerequisite classes.

4. Complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher.

5. Students must have at least 60 credit hours at UW or transferrable to UW.

6. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

7. Students cannot exhibit behavior that will impinge on the student's present or future ability to fulfill professional responsibilities as a social work professional.

8. All students seeking admission to programs in the College of Health Sciences are required to undergo a background check as specified by college policy. Criminal convictions may result in rejection of the candidate for admission to Admitted Major.

9. Students must submit an application and an application fee. (See UW Fee Book)

10. Applicants to the social work program cannot receive credit for life experience.

Requirements for Admitted Majors

Once admitted, social work students must:

1. Achieve a C or better in all social work courses, including six hours of required social work electives.

2. Social work classes are offered and must be completed in sequential order.

3. Maintain a 2.500 or above GPA overall every semester after admittance to Admitted Major.

4. Maintain a 2.500 or above GPA overall in all social work course work every semester after admittance to Admitted Major.

5. Registration is restricted and students must meet with their advisor each semester for enrollment.

6. Complete SOWK 4990 with a satisfactory grade.

7. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

Individuals failing to meet any of the above requirements will be reviewed by faculty and one of the following actions may be taken: remediation, probation, sanction, and/or dismissal from the program. Because many social work courses have prerequisite requirements, receiving a grade lower than a C in a social work course may prevent the individual from moving forward in the social work program.

BSW Field Practicum

All students complete a 450-hour (10 credit hours) field practicum experience in a community-based social agency or social program. Field practicum sites exist throughout the state of Wyoming and students may be placed outside Laramie. Students apply for this program the semester before their actual placement. Students must complete a Field Placement Application and meet with the Field Coordinator prior to determining a practicum site (please review Field Practicum Manual). Background checks and drug screenings may be required by some agencies even though the College of Health Sciences has received a background check during admission to the major.

For the practicum, a grade of U is interpreted as performing below expectations and will not be considered satisfactory completion of the practicum, hence of the BSW program. Based on input from the student, the field instructor, and the faculty liaison during the field evaluation, the field coordinator will determine what remediation would be required. The plan will clarify course objectives and professional skills upon which the student needs to improve. A student wishing to continue in the program would need to reapply for a field placement. Upon the field committee's approval of the request for placement, the student may then repeat the practicum experience. Consistent with University policy, the most recent grade would be the grade calculated into the GPA. The grade of U is interpreted as not meeting minimal requirements of the course; failure to complete the minimum clock hours in the field placement; failure to complete written assignments in a satisfactory manner; violation of one or more of the tenets of the NASW Code of Ethics (see Appendix B and Termination of Practicum section in the practicum manual); and/or failure to withdraw formally or to terminate the course. A student receiving a U in the practicum will be automatically dismissed from the BSW program with no opportunity to reapply or re-enter. Grades and dismissals may be appealed. (See most current BSW Student Handbook for appeal procedures.)

Requirements for Graduation

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only. USP H and PN courses must be taken outside the major subject but can be cross listed with the major.

BSW Curriculum

Social Work B.S.W. degree plan

Graduate Study

The Master of Social Work (MSW) prepares professional social workers for advanced-level social work practice and leadership positions in frontier and rural human service environments. The Advanced Generalist MSW program is accredited by the Council on Social Work Education. The MSW program graduates practitioners who work within and negotiate complex multi-dimensional problem settings for both clients and practitioners while embracing the profession's values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, competence, human rights, and scientific inquiry. The MSW full-time, hybrid program, based in Laramie, WY, utilizes a variety of delivery methods to accommodate Standard (2 years) and Advanced Generalist (1 year) students. The MSW part-time program option, based in Casper, WY, offers the same curriculum and model delivery for Standard (3 years) and Advanced Generalist (2 years) students, but provides for greater flexibility of schedule.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program level. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum. Students who have already obtained the BSW degree may apply for the Advanced Generalist MSW program.

Master of Social Work Field Practicum

All students, regardless of status, participate in field practicum experiences. New students submit an initial application for placement, time depending on whether the student is in the full-time or part-time program. Foundation students must complete 900 practicum hours over the course of the Standard curriculum. Advanced Standing students must complete 500 hours over the course of the Advanced Generalist curriculum. All students in practicum must take a corresponding field seminar class.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy. Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

Wyoming School Social Work Certification

The Division offers the necessary requirements to obtain Wyoming School Social Work certification. Students in the last year of the MSW Program need to successfully complete SOWK 5810 Working with Children and Families in the Schools and complete their field placement within an approved school setting. Upon graduation, students must apply to the Wyoming Department of Education to obtain formal certification. For the most current certification information go to the PTSB website http://wyomingptsb.com/

Graduate Admissions Requirements

The Division of Social Work's Graduate Admissions Committee bases recommendations on review of all application materials (applicant's grades, personal essay, analytic essay, professional references, and any related social service experience) as they reflect the applicant's commitment to social work, social and economic justice, values and ethics of the social work profession, and applicant's potential as a graduate student, social work practitioner, colleague and leader in the social work field. The Committee also looks for the intangible qualities that an applicant brings to the classroom and campus environment and to professional social work.

Once the committee recommends admission of an applicant, the Office of Admissions in Academic Affairs makes the final decision of admission.

Requirements for the Standard MSW Program

• A bachelor's degree with a liberal arts foundation.

• An undergraduate cumulative grade point average (GPA) of 3.000 or above on a 4-point scale.

Requirements for the Advanced Standing MSW Program

• A bachelor's degree in Social Work from a Council on Social Work Education accredited social work program;

• An undergraduate social work GPA of 3.250 or above;

• An overall undergraduate GPA of 3.000 or above;

• Received a B or better and/or a Satisfactory grade in BSW Field Education Practicum.

*International students have special requirements for admission to UW. All are encouraged to contact the International Students and Scholars Office for details before applying.

All Applicants

What Application Reviewers Assess When Reading Personal & Analytic Essays

For both the personal essay and the analytic essay, the reviewers will:

- Assess students' preparedness for graduate studies.
- Confirm adherence to the formatting instructions for each document.
- Validate the use of credible sources cited in the essay that support students' analysis.
- Appraise grammar and spelling skills.
- Evaluate students' ability to think critically and respond in-depth.
- Assess students' ability to write a clear and well-organized response.
- Verify that all questions posed have been answered.

Reviewers will read personal essays to assess whether students have:

- Expanded beyond the desire to "help people."
- Demonstrated critical self-reflection.
- Shown knowledge and understanding of the social work profession.

Reviewers will read analytic essays to assess that students have:

- Described a social justice issue and its importance fully and clearly.
- Presented a well-thought-out approach to create change around the issue.

All applicants meeting minimum criteria will be considered for admission. Applicants will be required to complete a criminal background check through College of Health Sciences.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program phase. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum in the second year. Students who have already obtained the BSW degree may apply for Advanced Generalist in the MSW program. These students complete only the second-year courses.

Master of Social Work Field Practicum

All students, regardless of status, participate in a field practicum experience, starting in the fall semester. New students submit an initial application for placement upon acceptance into the program.

Foundation students will complete 900 hours in practicum over the course of their two years of study, 400 and 500 hours respectively. Advanced Standing students will complete 500 hours in their one year of study. All students in practicum will take a corresponding field seminar class each semester.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy.

Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

English Language Center

Cheney International Center 28

Isadora Helfgott, Vice Provost for Global Engagement
Phone: (307) 766-3630
Web site: http://www.uwyo.edu/study-iep-esl

Our Mission

The English Language Center serves the University of Wyoming community by preparing speakers of English as a Second Language for future academic and career successes. We seek to fully engage students in campus and academic life through communicative language instruction and intercultural experiences.

IEP Conditional Admission: Conditional admission is available for undergraduate applicants who are academically eligible but have low language proficiency scores. Prospective students should complete two applications for conditional admission consideration-one for the IEP and one for a UW degree program. Only one application fee is needed. Contact us directly if you are interested in this option: elc@uwyo.edu.

Fay W. Whitney School of Nursing

351A Health Sciences Center,
(307) 766-4312
FAX: (307) 766-4294
Web site: www.uwyo.edu/Nursing
Dean: Sherrill J. Smith
Associate Dean: Karen L. Gorton

Professors:

ANN MARIE HART, B.S.N. Medical College of Virginia 1991; M.S. University of Wyoming 1996; Ph.D. University of Colorado Health Sciences Center Denver 2003; Professor of Nursing 2015.

SHERRILL J. SMITH, B.S.N. University of Wisconsin-Eau Claire 1985; M.S. Wright State University 1997; Ph.D. University of Northern Colorado 2008; Professor of Nursing 2019; Dean of Nursing 2019.

JENIFER THOMAS, B.S. Colorado State University 1994; M.S. Avila University 2000; M.S. Colorado State Unviersity2007; Ph.D. 2008; Professor of Nursing 2023.

Associate Professors:

REBECCA CARRON, B.S.N. Texas Christian University 1976; B.A. University of Wyoming, 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

KAREN GORTON, B.S. Wheaton College, 1986; M.S. Indiana University, 1988; B.S.N. Carroll College/Columbia College of Nursing 1988; M.S.N. University of Wisconsin - Milwaukee 2003; Ph.D. University of Northern Colorado 2010; Associate Professor of Nursing 2023.

JANET WILLHAUS, B.S.N. University of Kansas 1985; M.S. Fort Hays State University 2008: Ph.D. Washington State University 2013; Associate Professor of Nursing 2020.

Assistant Professors:

JENNIFER M. STEPHENS, B.S.N. Texas Christian University 1976; B.A. University of Wyoming 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

Clinical Associate Professors:

ESTHER GILMAN-KEHRER, B.S.N. University of Wyoming 1986; M.S. 1998; D.N.P. University of Colorado 2012; Clinical Associate Professor 2021.

NANCY MCGEE, B.S.N. University of Wyoming 2005; M.S. 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

J'LAINE PROCTOR, B.S.N. University of Wyoming 2000; M.S. 2003; Certificate-PMHNP 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

Clinical Assistant Professors:

NANCY "NIKI" EISENMANN, B.S.N. University of Nebraska Medical Center 2002; M.S. Nebraska Wesleyan University 2008; Ph.D. University of Missouri-Kansas City 2020; Clinical Assistant Professor 2020.

Senior Lecturers:

Associate Lecturers:

Carrie Barr, Paula Kihn, Candace Stidolph, Christina Warren

Assistant Lecturers:

Megan Beach, Shirley Boggs, Ashley Lair, Jennifer Langevin, Cheryl Rodgers, Shannon Schneider, Amy Turpin, Sarah Whitman

Adjunct and Part-time Faculty:

Amy Aldrich, Nicole Alexander, Nikki Armstrong, Jennifer Barbee-Crim, Timothy Barnes, Paula Belknap, Jennifer Browne, Colleen Butler, Britni Camino, Carol Campbell, Erin Clikeman, Robin Cole, Mary Cox, Robyn Curtis-Rice, Wesley Davis, Alison Doherty, Michelle Dowling, Sharon Farra, Jennifer Favilla, James Fleenor, Shelby Frost, Deborah Gaspar, Brian Gee, Mary Kay Goetter, Julian Good, Grace Gosar, Pete Gosar, Sheriedan Grannan, Nancy Halsey, Lori Hart, Jennifer Helmer, Jesse Henry, Holly Hink, Michelle Hipsak, Jennifer Hluwood, Barbara James, Dawn Jensen, Amy Johnson, Jayne Josephsen, Sunny Kaste, Melanie Kawulok, Katie Keller, Carol Kobulnicky, Cheryl Koski, Cory Lamblin, Kara Laughlin, Anthony Leonard, Sue Lowe, Cristina Mcafee, Lauren Menter, Katherine Miller, Jesse Morse-Brady, May Nara, Marcia Newell, Kristy Nielson, Brian O'Neill, Jennifer Oiler, Alicia Palazzolo, Sarah Penn, Whitney Peterson, Collin Prince, Chelse Raymer, Rasha Riad, Vickie Richards, Amy Robohm, Marlene Shaw, Elizabeth DePrince Smith, Shawn Snyder, Sherra St.Clair, Nichole Taylor, Veronica Taylor, Cassie Terfehr, Joslyn Thompson, Kate Thompson, Teresa Thompson, Weldonna Toth, Jennifer Tryder, Candace Tull, Jessica Warren, Cynthia Weber, Leah White, Linda Williams, Wendy Wood Neeson, Wendy Wright

Emeriti:

Pamela D. Larsen, Mary E. Burman, Beverly McDermott, Holly Miller, Mary Anne Purtzer, Kimberly Raksa-Miller, Susan H. Steiner, Beverly Taheri-Kennedy, Fay W. Whitney, Norma Wilkerson

The Fay W. Whitney School of Nursing (FWWSON) has well established B.S.N, M.S., and D.N.P. programs based upon national nursing education standards.

Mission

The FWWSON educates, conducts research and provides service and practice to improve, protect and promote health.

Accreditation and Membership

The baccalaureate and graduate programs are accredited by the Commission on Collegiate Nursing Education (CCNE).

The baccalaureate program (Basic BSN, BRAND) is approved by the Wyoming State Board of Nursing (WSBN). Graduates of the Basic BSN and BRAND options are qualified to apply to take national licensing examination: NCLEX. Graduates of the DNP Program are eligible to take the national certification exams as a nurse practitioner.

Technical Standards Education and Practice

All nursing students must be able to perform the essential functions of a nurse, including observation/communication, physical/motor, intellectual, and behavioral/social. Please refer to the "Technical Standards for Education and Practice and Reasonable Accomodations Policy", including information on reasonable accommodations, on the school's website: http://www.uwyo.edu/nursing/programs/technical-standards-for-admission.html.

Background Check Requirement

Students enrolled in clinical training programs within the College of Health Sciences are placed in educational and clinical settings where highly vulnerable clients such as minor children, individuals with disabilities, and/or the elderly, are routinely served. These clinical/ practice training sites (including schools, hospitals, pharmacies, and other university sites) routinely require criminal background checks for all students who engage in clinical activities. Therefore, background checks shall be required on all applicants to programs in the College of Health Sciences prior to admission into their prospective program.

Students applying for admission to any nursing program option will be notified by the FWWSON at the time of any admission offer the process for completing the required background check. Previous background checks (e.g. CNA Certification, LPN or RN Licensure) are not acceptable to fulfill this expectation. The results of the background check may determine final admittance to the program.

Students may also be required to update the criminal background check. Each clinical training site will be informed that students have passed a background check prior to placement at that site; some sites may require a more current background check. Clinical agencies may bar a student access to their facility for clinical experiences based on the results of the background check. If faculty and staff are not able to place the student in an alternative setting, the student will not be able to complete the program. In addition, students seeking readmission into the program are required to complete a new background check. Students are responsible for the costs associated with the admission background check and any other background checks that may be required.

Drug Screening Requirement

An acceptable drug screen is required at admission for all students entering clinical programs in the School of Nursing as drug screening is required by most clinical training sites. Students will be notified by the FWWSON should this be an expectation of them for a specific placement after admission. Students may incur charges for this screening and will be notified of such at that time. Drug and/or alcohol testing for any student can be requested by the FWWSON.

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Health Insurance Requirement

Health insurance coverage is a requirement of the Fay W. Whitney School of Nursing for participation in any clinical rotation. It is the responsibility of the student to obtain and maintain coverage for **ALL** clinical rotations. Students will be notified by the FWWSON for the timing for completion of the FWWSON Student Verification of Health Insurance Form.

Undergraduate Study

Bachelor of Science in Nursing (BSN) Program

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

1. Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgement, Patient Centeredness)
2. Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domains 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)
3. Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgement, Safety)
4. Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient Centeredness & Health Promotion)
5. Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)
6. Implement effective partnerships, policy, and advocacy across divers populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)
7. Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, & Health Promotion)

*Domains: AACN Essentials Domains

** CCC: ReNeW Core Curricular Concepts

Bachelor of Science in Nursing (BSN) Program Options

The Fay W. Whitney School of Nursing offers a baccalaureate program with three options to obtain the BSN degree:

1. Basic BSN - a four-year, on-campus BSN option for the student who wishes to become a registered nurse at the baccalaureate level.
2. BRAND (Bachelors Reach for Accelerated Nursing Degree) - an accelerated BSN outreach option for the student who has already achieved a previous non-nursing baccalaureate degree and who wishes to become a registered nurse at the baccalaureate level.
3. BSN Completion - two online BSN options (ReNEW and RN-BSN):
    - ReNEW (Revolutionizing Nursing Education in Wyoming) - an online BSN option for the student or graduate of a Wyoming community college ReNEW nursing program who wishes to become a baccalaureate-prepared nurse.
    - RN-BSN - an online BSN option for the graduate of a non-ReNEW associate degree or diploma nursing program who wishes to become a baccalaureate-prepared nurse.

Please refer to the appropriate BSN program option section that follows below.

Graduate Study

The Fay W. Whitney School of Nursing offers two graduate programs leading to: 1) a Master of Science (M.S.) degree and 2) a Doctor of Nursing Practice (D.N.P.) degree.

Master of Science (MS) Program

The MS program of study is for nurses who desire to become nurse educators or nurse leaders in any academic or health-related setting. The program mission is to prepare transformational learners and leaders to advance nursing education and practice, thus, addressing the complexities in the 21st century healthcare system. Core curricular concepts woven through the curriculum include transformation, communication, interconnected global perspective, outcomes orientation, and rural population health.

Expected Student Learning Outcomes

MS graduates are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings.
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate concepts from nursing and other sciences to address population health.
- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation:

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Master of Science (MS) Program Concentrations

The Fay W. Whitney School of Nursing offers a masters program with two concentrations to obtain the MS degree:

1. Nurse Educator - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse educators.
2. Nurse Leader - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse leaders.

Please refer to the MS program section that follows below.

Doctor of Nursing Practice (DNP) Program

The Doctor of Nursing Practice (DNP) degree is the new standard for advanced practice nursing education. The DNP program is open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by an approved nursing education accrediting body.

Expected Student Learning Outcomes

DNP graduates will:

1. engage in evidence-based practice to optimize health outcomes;
2. engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation:

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Doctor of Nursing Practice (DNP) Program Concentrations

The Fay W. Whitney School of Nursing offers a doctoral program with two concentrations to obtain the DNP degree:

1. Family Nurse Practitioner (FMY) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural primary care.
2. Psychiatric Mental Health Nurse Practitioner (PSH) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural psychiatric mental health care.

Please refer to the appropriate DNP program concentration section that follows below.

Life Sciences Program

Life Sciences Program

107 Aven Nelson Building

Program Director: Jonathan Prather

Associate Director: Christopher North

The Life Sciences Program consists of all LIFE prefix courses. These courses support life science majors and non-life science majors across campus. The foundational curriculum provides science majors with both breadth and depth in the basic life sciences, and non-science majors with key concepts in biology as well as an understanding of the connections

between science and society. Courses familiarize students with the diversity of life and expand upon the fields of cell and molecular biology, genetics, ecology, and evolution.

Courses within the curriculum emphasize four fundamental goals at a level appropriate for each course:

1. Acquisition, Application and Synthesis of Knowledge

2. Communication Skills

3. Critical Thinking and Problem Solving

4. Research Skills

Professor:

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Professor of Zoology and Physiology 2021, 2009.

Master of Business Administration (MBA)

Master of Business Administration (MBAM)

MBA & Professional Graduate Programs Office
1000 E. University Ave., Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

MBA - Campus

Program Overview

The UW MBA Program delivers professional management education that connects principles, concepts, and intense case analysis with real world experience as tools for making business decisions. Students will develop leadership and managerial skills. UW MBAs will possess the education and training to compete in today's rapidly changing global business world.

Class sizes are small and diverse. Courses are taught by a select group of business faculty members. The total program experience (both inside and outside the classroom) is designed to provide experiential learning along with access to powerful networks.

Admission Requirements

A Faculty Admissions Committee, chaired by the Director of the MBA Program, will review all applicants. Application to the program is open to students who have a baccalaureate degree from an accredited university or college. Please view the full list of admission requirements below.

Students whose native language is not English must submit TOEFL results (or another approved English proficiency exam). There are no exceptions for students from other UW colleges and schools seeking dual degrees. If an international applicant wishes to be considered for GA funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI) or an approved alternative to the OPI. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please be advised that our program includes significant class discussion, substantial daily reading, many written assignments, and presentations.

Dual Degree Programs

The following dual degree programs are available:

- MS in Engineering / MBA
- Pharm. D. / MBA
- J.D. / MBA

Students will need to meet all MBA admission requirements and respective dual college/department requirements and be admitted to both degree programs in order to be considered for the dual degree program. The MBA core requirements are required of all students. After successful completion of all requirements, students in the dual degree program will graduate with two graduate level degrees.

Admission to the Master of Business Administration program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site. For students who are applying for the Advanced Accounting Concentration the Bachelor's degree must be in Accounting.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. Based on a 4.0 scale. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE/GMAT is not required except when requested by the program director.
- Professional resume.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

Note: These are the minimum requirements and do not guarantee admission or funding.

Prerequisites: No specific prerequisite courses are required. However, evidence of technical proficiency and/or prior business experience from your work history and transcripts are considered in the admissions process. If admitted to the program, all MBA students are required to take our MBA Foundations course, which establishes a baseline level of knowledge in Accounting, Finance, Economics, and Statistics.

Additional International Student Admission Requirements:

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website:https://www.uwyo.edu/admissions/international/english-alternatives.html
- International students must also prove sufficient financial resources as established by the University of Wyoming (Graduate International Student Admissions).

Degree Requirements

- Thirty-six (MBA-MBA) credit hours of graduate coursework, including participation in all MBA Program activities (orientation, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development, International Business Trip, etc.). Please note that students enrolled in any dual degree MBA program are required to complete all MBA participation activities and the core coursework.
- This is a cohort based program and while the course sequence is highly structured, there may be the opportunity to extend the duration of the one-year program. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Course of Study

Pre-Term: All admitted MBA students will complete a Foundations course during orientation, the International Business trip, and the Jackson Leadership Summit. Students may also receive pre-term assignments and/or pre-term prep course material.

MBA Core Requirements (27 credit hours) - Required of all MBA students as well as all Dual Degree MBA students.

- MBAM 5101 MBA Foundations. 1.
- MBAM 5104 Organizational Behavior and HRM. 3.
- MBAM 5107 Executive Leadership I. 1.
- MBAM 5201 Data & Business Analytics. 3.
- MBAM 5204 Financial Management. 3.
- MBAM 5207 Marketing Management. 3.
- MBAM 5208 Accounting for Managers. 3. or MBAM 5208 Managerial Accounting. 3.
- MBAM 5209 Executive Leadership II. 1.
- MBAM 5305 Strategic Management. 3.
- MBAM 5330 Global Business Environment. 3.
- MBAM 5434 Macro Economic Analysis. 3.

MBA Elective Requirements

- Campus-MBA students, must take an additional 9 credit hours of 5000 level College of Business courses. Some credits may be taken outside the college of business with the approval of the program director. Please contact your advisor for additional information.

Students who are participating in the Advanced Accounting Concentration will not take MBAM 5208 or the required electives. Instead, they will take the following classes:

- ACCT5030 - Advanced Financial Accounting. 3.
- ACCT5040 - Seminar in Managerial Accounting. 3.
- ACCT5060 - Auditing II. 3.
- ACCT5070 - Tax II. 3.

Students that would like to participate in the Venture MBA track are expected to take the following electives:

- ENTR 5601 New Ventures. 3.
- ENTR 5602 Strategic Management of Innovation & Technology. 3.
- ENTR 5603 Entrepreneurial Finance. 3.
- 6 credits of Thesis, Independent Study, Practicum, or Internship.

Application Deadlines

- **Fall Admission Only**
    - Final Deadline: June 1
    - Priority Deadline: November 1
    - Wyoming Resident and Scholarship Deadline: March 1

**International Applicants: Please be advised that there are additional* university requirements *that may take additional processing time - you are highly encouraged to apply prior to the application deadline to ensure that if admitted, all required documentation can be provided prior to the beginning of the term of entry.*

Additional Information

Tuition & Fees

Tuition and fee charges will not include the cost of textbooks. Please refer to University of Wyoming cost of attendance for additional information.

MBA Executive Speaker Series

Students participate in weekly meetings (primarily on Fridays) with business leaders from a wide variety of industries (business, government, and non-profit entities). The program takes place mostly on campus, but does include some travel. This program supplements the class work, provides discussion and learnings of business challenges, opens the students' horizons on career opportunities, and provides long-term networking opportunities. Attendance is Required

International Business Trip

The International Business Trip introduces students to themes and trends prevalent in the global business marketplace. The trip includes company visits, cultural experiences, and reflections on the issues individuals and companies face in global business. This experience is associated with MBAM 5330 Global Business, and part of the grade for the course is dependent on the student's performance on the trip. Attendance is required.

Jackson Leadership Summit

Exclusive leadership development event for MBA students to network with an astute panel of individuals with proven business success. Topics usually focus on the global economy and strategic planning. Attendance is required.

Campus to Online MBA Program

Students enrolled in the campus MBA program may, on a case-by-case basis apply credits from the Online MBA program (courses with an MBAX prefix) to their degree, and vice versa. Must be approved by the Program Director.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming. Other requirements involving program dismissal include:

- A student who earns a grade of "D" or lower in any one course will be dismissed from the program. Students may petition to be reinstated into the program.

Online Master of Business Administration (MBAX)

MBA & Professional Graduate Programs Office
1000 E. University Ave., Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

MBA-MBAX - Online

Program Overview

The University of Wyoming offers a flexible Online MBA. The Online MBA Program is specifically designed for experienced business professionals interested in an AACSB accredited, 100% online program that fits their busy schedules. This program is typically completed in two years and is tailored for professionals interested in enhancing their understanding of business disciplines and applying them to decision-making. With starts each Fall, Spring, and Summer, the cohort-based program consists of a minimum 30 credit hours of required coursework.

Program Admission Requirements

A Faculty Admissions Committee, chaired by the Director of the MBA Program, will review all applicants. Application to the program is open to students who have a baccalaureate degree from an accredited university or college. Please see full list of admission requirements below.

Students whose native language is not English must submit TOEFL results, or results of another approved English proficiency exam. There are no exceptions for students from other UW colleges and schools seeking dual degrees. If an international applicant wishes to be considered for GA funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI) or an approved alternative. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please be advised that our program includes significant class discussion, substantial daily reading, many written assignments, and presentations.

Admission to the Online Master of Business Administration program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site.For students who are applying for the Advanced Accounting Concentration the Bachelor's degree must be in Accounting.

- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. Based on a 4.0 scale. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE/GMAT is not required except when requested by the program director.
- Professional resume. A minimum 2 years' professional work experience is preferred.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

Note: These are the minimum requirements and do not guarantee admission or funding.

Prerequisites: Prerequisite courses may be required as determined by the MBA Director. Please reach out to our office at cobgradprograms@uwyo.edu or 307-766-2482 for additional information.

Additional International Student Admissions Requirements

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html.

Degree Requirements

- Thirty (30) credit hours of graduate credit as outlined in the Course of Study section.
- While the course sequence is structured, there is a lot of opportunity for flexibility. This program can be completed in one or two years most commonly, but longer completion timelines can be discussed. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F.

Course of Study

MBA Core Requirements (21 credit hours) - Required of all MBAX students.

- MBAX 5104 Organizational Behavior & HRM. 3.
- MBAX 5202 Data and Decision Modeling. 3.
- MBAX 5204 Financial Management. 3.
- MBAX 5207 Marketing Management. 3.
- MBAX 5208 Accounting for Managers. 3.
- MBAX 5305 Strategic Management. 3.
- MBAX 5330 The Global Business Environment. 3.

MBA Elective/Concentration Requirements

- MBA-MBAX students must take an additional 9 credit hours of 5000 level College of Business courses.
- Energy Concentration students will complete the additional 9 credit hours of coursework as follows:
    - ACCT 5503 Fundamentals of Accounting in the Energy Industry. 3.
    - MGT 5504 Energy Industry Value Chain. 3.
    - FIN 5502 Energy Finance: Project Evaluation. 3.

Students who are participating in the Advanced Accounting Concentration will not take MBAX 5208 or the required electives. Instead, they will take the following classes:

- ACCT5030 - Advanced Financial Accounting. 3.
- ACCT5040 - Seminar in Managerial Accounting. 3.
- ACCT5060 - Auditing II. 3.
- ACCT5070 - Tax II. 3

Application Deadlines

- **Fall Admission**
    - Block 1 Final Deadline: July 1
    - Block 2 Final Deadline: September 15
- **Spring Admission**
    - Block 1 Final Deadline: December 1
    - Block 2 Final Deadline: February 15
- **Summer Admission**
    - Final Deadline: April 1

**International Applicants: Please be advised that there are additional* university requirements *that may take additional processing time - you are highly encouraged to apply prior to the application deadline to ensure that if admitted, all required documentation can be provided prior to the beginning of the term of entry.*

Additional Information

Tuition and Fees

Tuition and fee charges will not include the cost of textbooks. Please refer to University of Wyoming cost of attendance for additional information.

Online to Campus MBA Program

Students enrolled in the online MBA program may, on a case-by-case basis apply credits from the campus MBA program (courses with an MBAM prefix) to their degree, and vice versa. Must be approved by the Program Director.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming.

College of Business Graduate Certificate Programs

MBA & Professional Graduate Programs Office
1000 E. University Ave,. Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

CERT-MBAE - Energy Business
CERT-CFP - Certificed Financial Planning

Program Overview, Energy Business Certificate

The Certificate in Energy Business is composed of 9-credits of masters-level graduate coursework in the College of Business, with the primary goal of achieving mastery and professional skills common to functional business roles within the energy industry. Specifically:

- Develop a working understanding of the concepts and practices of Supply Chain Management to make strategic support decisions within the energy industry.
- Acquire the foundation necessary to work in the energy industry as a financial statement analyst, manager, auditor, or accountant.
- Utilize core capital budgeting, techno-economic cashflow modeling and other finance concepts to evaluate energy industry project investments.
- Demonstrate effective problem solving, written, and oral communication skills in the context of the energy industry.

Program Overview, CFP Certificate

The Certificate in Certified Financial Planning is composed of 18-credits of masters-level graduate coursework in the College of Business, with the primary goal of providing students with the education, training, and skills necessary to be able to sit for the Certified Financial Planner (CFP) examination. The curriculum is aligned with the CFP® Board's Principal Knowledge Topics and covers principles and practices of essential areas of financial planning, including:

- Wealth Management
- Investment Management
- Tax Planning
- Estate Planning
- Insurance and Retirement Planning

Program Admission Requirements

Admission to the graduate certificate programs generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred (based on a 4.0 scale). If you do not meet the preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE or GMAT Optional. A strong GRE or GMAT score may be considered to offset deficiencies in other areas of your application (such as a GPA below 3.0, limited work experience, etc.), but is not required.
- Professional resume. A minimum 2 years of professional work experience is preferred.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience (no need to schedule a meeting).

Note: These are the minimum requirements and do not guarantee admission or funding. The University of Wyoming College of Business Graduate Certificate programs do not admit students provisionally or conditionally.

CERT-MBAE Prerequisites: Applicants must provide evidence of proficiency in the following areas:

Managerial Accounting

Finance

CERT-CFP Prerequisites: Applicants must provide evidence of proficiency in the following areas:

Business Math and Statistics

Financial Management

*Evidence of proficiency in these areas is considered on a case-by-case basis but is commonly pursued through supplemental courses and/or relevant professional experience. Please contact the program office for additional information.

Additional International Student Admissions Requirements

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html
- On-Campus Education Only: International students must also prove sufficient financial resources as established by the University of Wyoming (Graduate International Student Admissions).

Degree Requirements, Energy Business Certificate

- 9 total credit hours of coursework to include:

    - FIN 5502 - Energy Finance: Project Evaluation. 3.
    - ACCT 5503 - Fundamentals of Accounting in the Energy Industry. 3.
    - MGT 5504 - Energy Industry Value Chain. 3.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Degree Requirements, CFP Certificate

- 18 total credit hours of coursework to include:
    - FIN 5070 Tax Planning for Financial Planners. 3.
    - FIN 5310 Investment Management. 3.
    - FIN 5720 Insurance and Retirement Planning. 3.
    - FIN 5750 Fundamentals of Financial Planning. 3.
    - FIN 5780 Estate Planning. 3.
    - FIN 5800 CFP Capstone. 3.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming. Other requirements involving program dismissal include:

- A student who earns a grade lower than a "C" in any course must retake the course, or withdraw from the program.

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753

FAX: (307) 268-2416

Web site: www.uwyo.edu/pharmacy/mlsprogram/index.html

Director: Jed M. Doxtater, MS MLS (ASCP)

Assistant Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Assistant Clinical Faculty of Medical Laboratory Science 2015.

Assistant Lecturer:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assistant Lecturer of Medical Laboratory Science 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

1. Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.

2. Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.

3. Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.

4. Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.

5. Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.

6. Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.

7. Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.

8. Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

• Application of safety and governmental regulations and standards as applied to clinical laboratory science;

• Principles and practices of professional conduct and the significance of continuing professional development;

• Communications sufficient to serve the needs of patients, the public and members of the health care team;

• Principles and practices of administration and supervision as applied to clinical laboratory science;

• Educational methodologies and terminology sufficient to train/ educate users and providers of laboratory services;

• Principles and practices of clinical study design, implementation and dissemination of results;

• Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and

biohazard and safety

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program they become eligible to sit for national certification examinations for the profession. The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs. *Contract information:* National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119 http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

• Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.

• Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.

• Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.

• Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory

Science degree.

See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Upon completion of the prerequisite requirements of the program, students may apply to the professional program in the fall semester of their senior year. Applications for the program must be submitted to the MLS program director before finals week of the fall semester prior to entering the professional program Advanced Clinical Practicum (ACP) coursework. It is the students' responsibility to complete and submit applications by the defined due date.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

Prior to participating in the enrichment experience, students may be subjected to that agency's requirements for HIPAA training, a background check, drug testing and/or drug abuse prevention policies. Students may be subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background checks should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo).

Students must meet the vaccination and health insurance requirements of the university. Vaccinations are available through the county health department or through student health on the UW-C campus, and liability health insurance is available through the University of Wyoming. Current enrichment site affiliates do not require a background check, drug screen or proof of vaccination, as the university vaccination requirements exceed that of the facility. If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. This notification should occur well in advance to entering the professional program. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR and program director, to ensure all required documentation is provided. The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

• Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.

• Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.

• Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.

• Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

• Move freely and safely about a laboratory.

• Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.

• Travel to numerous clinical laboratory sites for practical experience. • Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.

• Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.

• Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.

• Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.

• Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

• Read and comprehend technical and professional materials.

• Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.

• Clearly instruct patients prior to specimen collection.

• Effectively, confidentially and sensitively converse with patients regarding laboratory tests.

• Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.

• Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

• Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.

• Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.

• Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.

• Be flexible and creative and adapt to professional and technical change.

• Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.

• Adapt to working with unpleasant biologicals.

• Support and promote the activities of fellow students and of health care professionals.

• Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.

• Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

Requirements for the Bachelor of Science in Medical Laboratory Science

Medical Laboratory Science, B.S. degree plan

Microbiology Program: Interdepartmental major

5004 Agriculture Building, (307) 766-3139
FAX: (307) 766-3875
E-mail: microbiology@uwyo.edu
Program Director: Interdepartmental Microbiology Steering Committee

Microbiology is the study of life forms too small to be observed without the aid of magnification. Major groups of microbes include the bacteria, fungi (yeasts and molds), protozoa, and algae, as well as the viruses. In addition, related disciplines such as immunology and molecular biology are included because of their historical origins within microbiology.

As such, the science of microbiology is divided into numerous subspecialty areas that reflect not only the individual groups of microbes (e.g., bacteriology, virology, mycology, etc.), but also their significance in applied areas (e.g., medical microbiology/infectious diseases, microbial ecology, food microbiology, industrial microbiology, biotechnology, etc.) or in areas of basic science (e.g., molecular genetics). Throughout its history, microbiology has played a key role in the development of our understanding of basic biochemical and genetic processes, control of infectious diseases, production of increased and improved food supplies, and the production of numerous commercial products. With the development of molecular techniques to construct genetically engineered microbes, microbiologists will continue to make expanding contributions in these and other areas.

Because microbiology is a diverse science, individuals trained as microbiologists find exciting career opportunities in many areas of the basic and applied sciences. Typically, microbiologists are employed in five major sectors: private industry; clinical laboratories; government agencies; universities and various other settings such as water treatment, food production/inspection facilities, and other public health-related areas. Recent manpower assessment studies at both the national and regional levels have provided evidence for a continuing and expanding need for microbiologists such that successful undergraduate students completing this program may look forward to exciting careers. In addition, undergraduates trained in the microbiological sciences are well prepared for competitive application to graduate school programs and professional programs in human or veterinary medicine, optometry or dentistry.

The Bachelor of Science degree program in microbiology is organized as an interdepartmental major involving the collaborative teaching, advising, and research expertise of microbiology faculty from the College of Agriculture, Life Sciences and Natural Resources, Haub School of Environment and Natural Resources, and College of Health Sciences. The program is administered by a Program Director and the Interdepartmental Microbiology Steering Committee, representing each of the participating colleges. Students obtain their degree in the College of Agriculture, Life Sciences and Natural Resources. Additional information about the microbiology program may be obtained at the

following website address and by contacting the Program Director or one of the members of the Interdepartmental Microbiology Steering Committee listed below.

www.uwyo.edu/uwag/departments/microbiology.html

- BERIT BANGOURA, Veterinary Sciences
- BLEDAR BISHA, Animal Sciences
- GRANT BOWMAN, Molecular Biology
- ELIZABETH CASE, Veterinary Sciences
- BRIDGET DECKER, Molecular Biology
- JASON GIGLEY, Molecular Biology
- MARK GOMELSKY, Molecular Biology
- MYRNA MILLER, Veterinary Sciences
- EUNSOOK PARK, Molecular Biology
- KERRY SONDGEROTH, Veterinary Sciences
- HOLLY STEINKRAUS, Molecular Biology
- LINDA VAN DIEPEN, Ecosystem Science and Management
- DANIEL WALL, Molecular Biology
- RACHEL WATSON, Haub School of Environment and Natural Resources
- JOHN WILLFORD, WWAMI Medical Education Program
- KASSANDRA WILLINGHAM, Molecular Biology

National Outdoor Leadership School

Administered by the Haub School of Environment and Natural Resources
Bim Kendall House

Haub School Advising Center
Phone: (307)766-5080 FAX: (307)766-5099; Web site: www.uwyo.edu/haub

The University of Wyoming (UW) and National Outdoor Leadership School (NOLS) Articulation Agreement provides the opportunity for UW students to receive UW academic credit for NOLS courses.

When NOLS students step into the world's wild places, they bring not only their backpacks, but also more than 40 years of experience in expeditioning. NOLS founder Paul Petzoldt's idea was simple: take people into the wilderness for an extended period of time, teach them the right things, feed them well and when they walk out of the mountains, they will be skilled leaders. The core of his idea was the extended expedition, one of sufficient length that a person could learn and practice the skills over and over again. That is the backbone of every NOLS course and today the school is widely recognized as the world's leader in the extended expedition, from two weeks to twelve.

This articulation agreement covers domestic and international NOLS courses. This agreement also covers some individual shortterm courses (14 days or less; including mountaineering, rock climbing, sailing, kayaking, skiing, snowboarding, and backpacking) and the Wilderness First Responder (WFR) course.

Application/Eligibility

Current UW students, or students who have been fully or conditionally admitted to UW may receive articulated NOLS credit. Students who have already taken a NOLS course cannot receive credit retroactively (i.e. if a student embarked on a NOLS course and requested to get credit after the course was completed).

Credit and Credit Transfer

UW credit hours will be awarded in the approved courses, which require prior approval. Upon completion of the NOLS courses, provided a grade equivalent to a UW grade of C or better was obtained at NOLS. These UW course grades will be included in your UW GPA. Students who withdraw or are expelled from a NOLS course may receive an incomplete or an F for all enrolled UW credit.

Students should be aware that for internship credits to be awarded, additional academic work requirements determined by the internship course will need to be met. Those additional requirements vary between academic programs and amount of credit desired, but may include a satisfactory evaluation from NOLS, a weekly journal, a substantial written report, and an oral presentation. Internship requirements are established prior to your participating in the NOLS course.

Academic Advising

Prior to participating in a NOLS course for UW credit, students must make an appointment with the Haub School by emailing haub.school@uwyo.edu or calling (307) 766-5080. If your academic program is outside of the Haub School, students should also meet with their assigned academic advisor to determine if these courses will count towards their major. The Haub School will approve the student's schedule, provide the appropriate course numbers, and liaise with the NOLS Registrar.

Financial Arrangements

Each UW student will pay to NOLS:

- The NOLS tuition and related fees (any changes to be advised in writing by NOLS at least three months in advance of the change coming into effect), related fees would include equipment deposit;
- Complete medical and evacuation health insurance;
- Other fees (e.g. tuition protection program, local transportation, and gear purchases), air transportation and additional living expenses will be paid directly by the student to the provider of the service.

Each UW student will pay to UW:

- The published per credit registration fees to register UW credits earned at NOLS

Financial Aid

Students enrolled in the NOLS program may apply their financial aid to the cost of the program if they are enrolled as a full-time degree seeking student at the University of Wyoming. To do so, please work with the UW Office of Scholarships and Financial Aid.

Rules, Law, and Regulations

UW students studying at NOLS will be bound by all rules, regulations and by-laws in operation at NOLS. In addition, since UW students remain enrolled as degree candidates at UW, they must also adhere to UW standards of conduct, rules and regulations. UW and NOLS both abide by the Federal Right to Privacy Act (FERPA).

Steps to Follow

1. Determine the NOLS course that best fits your needs/interests and/or goals online at: www.nols.edu/courses
2. Make an appointment with an advisor from the Haub School to determine the UW academic credit that best suits your degree program by e-mailing haub.school@uwyo.edu or by calling (307) 766-5080.
3. Meet with your academic advisor (if your academic program is not in the Haub School).
4. Apply and be admitted into NOLS.
5. Prior to leaving for your NOLS course, enroll in the credit offered for the course.
6. Secure your financial aid (if any) with the UW Office of Scholarships and Financial Aid.
7. Attend and successfully complete the course (grade C or better).
8. Grades will be posted the semester of completion of your course.

UW Credit Options for NOLS

UW recognizes the following credit options for taking a NOLS course:

Short Courses (less than 14 days)

Students may be eligible to complete 2 Hours of UW credits in the following course(s).

- ENR 4960 - Field Studies in: Credits: 1-6 **

Quarter Length Courses (14-65 days)

Students may be eligible to complete up to 9 hours in the following courses.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **

Semester & Year-long Courses (more than 65 days)

Students may be eligible to complete up to 12-24 hours in the following courses.

For year-long courses, independent study credits are also available.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3 ***

Note:

**There are additional course requirements for 4000-level NOLS credit. Syllabi and course expectations will be shared upon enrollment.
***For courses with a Wilderness First Responder component only.

Ranch Management & Agricultural Leadership

School of Computing

Engineering Building, Room 4083
Phone: (307)766-5299 Email: uwyo-soc@uwyo.edu

Gabrielle Allen, Director
Website: www.uwyo.edu/soc

The School of Computing is a hub of innovation and knowledge exchange for computing and digital skills.

The school aims to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the computational tools, skills and approaches to drive transformation and innovation in the state. The School of Computing champions broader efforts to make the University of Wyoming more digital, inclusive, interdisciplinary, and entrepreneurial through computing partnerships across Wyoming.

Vision:

Create a unique and inspirational School of Computing with national impact and global reach, providing Wyoming and the world with agile and ethical computing professionals, empowered to address societal challenges that are inherently interdisciplinary.

Mission:

Position our land grant institution as: a national leader in computational and digital research, education, and engagement; a computational hub for students, faculty, staff, community, and our industry/state/academic partners; a steward, supporter, and developer of digital skills and computational thinking for all.

Values:

- Excellence in research, teaching, and engagement
- Partnership and collaboration
- Diversity, equity, and inclusion in computing
- Context-based experiential learning
- Computing across disciplines, including social sciences, arts, humanities and STEM

Centers:

WyGISC is an interdisciplinary research and education institute at the University of Wyoming. The Wyoming Geographic Information Science Center (WyGISC) is an interdisciplinary academic center focused on education, research and development of geospatial information and technologies and their applications in science, government, business, and other areas.

The Data Science Center provides an academic hub for data science at UW, providing the key academic component in a "UW Data Science Collaboratory" (DSC, Library, ARCC, WyGISC, WNA, Maker Space, Extension along with disciplinary partners including AHC, INBRE Data Core, WYNDD, RMH, 3D Viz, NSF WyACT, etc).

Engagement Programs:

Data Science Center Fellows

The Data Science Center supports two Faculty Fellows each academic year in pursuit of excellence in research, teaching, and engagement in data science at the University of Wyoming.

Faculty Fellows

The Faculty Fellows program supports projects that advance computing research, learning, and engagement across the university, with a focus on aligning with university initiatives, fostering applied computing, impacting student experiences, integrating the School of Computing, and promoting digital for all.

Graduate Computing Scholars

Graduate Computing Scholars are proudly supported for being outstanding graduate students demonstrating immense potential in their computational careers. They are enrolled in Ph.D. or Master's programs at the University of Wyoming, pursuing research projects where innovative computing and/or the advancement of computing play a crucial role.

UW Derecho Professors

The *UW Derecho Professor* designation provides named professors in any academic field with up to 5 million core hours of access to both traditional compute nodes and accelerators on the Derecho supercomputer at the NCAR Wyoming Supercomputing Center (NWSC). Leveraging and enhancing the UW-NCAR partnership, the initiative contributes to recruiting and retaining UW faculty whose research program in computing will be strengthened through a flexible and guaranteed allocation on this resource.

Visiting Scholars

Visiting Scholars are used to support short-term visiting scholars that are faculty, post-docs, or advanced graduate students (in the final 2 years of studies). The funds may be used to cover travel, lodging, and meal costs as well as a stipend for the visiting scholar.

Personnel:

All personnel affiliated with the School of Computing is listed accordingly at https://www.uwyo.edu/soc/people/index.html.

The People at the School of Computing webpage includes the Administrative Team, Advisory Board, Graduate Students (internal and external to the School), Faculty (Research Scientists, Core, Adjunct, and Post-Doctoral Associates), and UW Derecho Professors.

Accreditation:

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education.

Program Specific Admission Requirements (Undergraduate)

> Undergraduate students apply for admission to the University of Wyoming and then declare a major or minor within SoC at any point during their course of study. To declare a major, students must meet with their SoC affiliated academic advisor. Any student wanting to add the SoC minor should consult an SoC affiliated advisor to streamline their program.

All SoC programs will emphasize experiential learning and encourage interdisciplinary courses when possible.

General Policies:

- A minimum 2.00 UW GPA is required to apply for the minor.
- It is the student's responsibility to monitor requirements for the minor, along with their advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the minor must be passed with a grade of "C" or better.

Program Specific Admission Requirements (Graduate)

Graduate GIST Certificates and Degrees - see https://www.uwyo.edu/wygisc/academics/graduate-programs/index.html

School of Counseling, Leadership, Advocacy, and Design

332 Education Building, (307) 766-2366
and
316 Education Building, (307) 766-5649
Web site: www.uwyo.edu/clad
School Director: Courtney McKim

The School of Graduate Studies in Education includes the following program areas: Counseling, Educational Leadership, Higher Education Administration, Learning, Design and Technology, Research, and Special Education.

Program Areas

Counseling

Counselor education curricula experiences concentrate on the integration of helping skills, theory and practice. The programs utilize a personalized, developmentally oriented focus and prepare professional counselors for entry into school and mental health settings.

The undergraduate counseling courses are designed to achieve the following objectives:

- enhance self-awareness
- facilitate effective relationship skills
- increase leadership knowledge and skills
- assist learners in maximizing their potential

Graduate Study

Counselor education offers a two-year (61- 65 semester hours) master's degree program for practice in schools, colleges, universities, and community agencies, as well as private practice. The Council for Accreditation of Counseling and Related Educational Programs (CACREP), the national accrediting body recognized by the Council for Higher Education Accreditation, has conferred accreditation to the following M.S. specializations in counseling: school counseling and mental health counseling. The Ph.D. program in Counselor Education and Supervision is also CACREP accredited. Some courses are offered for undergraduates interested in school counseling, group work, leadership, and student affairs work. Undergraduates interested in preparing for entry into graduate work in counseling are invited to consult with program faculty prior to graduation. Program information is available on the Web site.

Degrees Offered

M.S. in Counseling, Option: Community Mental Health Counseling
M.S. in Counseling, Option: School Counseling
Ph.D. in Counselor Education and Supervision

Program Specific Admission Requirements

For master's applicants:

- Summary of academic background
- Personal statement
- Three letters of recommendation
- Current professional resume
- Transcripts
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years

In order to be considered for admission to the master's program, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For doctoral applicants:

- Transcripts
- Three letters of recommendation
- Personal self-statement
- Current academic resume
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years

In order to be considered for admission to the doctoral program, applicants must meet the following minimum requirements:

- Master's degree in Counseling
- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

Program Specific Degree Requirements

Professional Master's Program

Minimum requirements:

- Same for all options
- 61 hours of graduate credit to include 40 hours of core courses and 21 hours of graduate coursework specific to chosen option
- Culminating internship activity guided by faculty advisor
- Students complete the CAPP program in lieu of a program of study

Master's Degree in Counseling

At the completion of the Master's degree in Counseling students will demonstrate the following learner outcomes:

1. Professional Competence & Academic Preparation for Licensed Professional Counselor (LPC): Students will demonstrate academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor.
3. Professional Identity: Students will develop a professional identity as a professional counselor including the areas of advocacy, leadership, social justice, and promoting caring communities.
4. Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals.

Doctor of Philosophy in Counselor Education and Supervision

Doctoral students are required to have completed a minimum of a 48-hour Master's degree from a program of study equivalent to a CACREP accredited Masters program in Counselor Education. These requirements are based upon the 2016 CACREP Standards.

Ph.D. in Counselor Education & Supervision

Doctoral students in Counselor Education & Supervision will demonstrate the following learner outcomes.

1. Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals and academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. Professional Licensure: Students will obtain professional licensure as a Licensed Professional Counselor (LPC) in the state of Wyoming and/or develop a plan to obtain licensure for the state in which they intend to relocate upon graduation.

3. Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor, supervisor and educator including the areas of advocacy, leadership, social justice, and promoting caring communities.

4. Research & Scholarship: Students will develop a professional identity as an academic researcher by demonstrating a clear and active research agenda that includes a plan of action for professional presentations and manuscripts.

5. Professional Development: Students will develop a clear and diligent plan to becoming a skilled, ethically competent counselor educator. -

Program Specific Graduate Assistantships

Assistantships are usually available for doctoral students. Master's students sometimes qualify for assistantships. Please contact the program at (307) 766-2366 for assistantship opportunities, and see school web site.

Educational Leadership

The curriculum in educational leadership is designed to prepare graduate students for positions as superintendents, principals, and other roles in both public and private organizations. Those in leadership perform duties of a specialized nature and this program provides sufficient breadth to give candidates for advanced degrees ample opportunity to develop essential competencies.

Degrees and Certificates Offered

Students who major in education with an option in educational leadership may choose one of the following certificate or degree programs: Principal Certificate program for eligibility of a K-12 Principal Certificate endorsement, School District Superintendent Certificate, Master of Arts in Education, Doctor of Education.

Program Specific Admission Requirements

For principal certificate applicants:

- Letter of intent
- Current resume
- Copy of current teaching certificate
- Transcripts
- Principal program application form
- Superintendent approval form
- Three letters of recommendation, with two of the letters from someone in a related supervisory role to the candidate.
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Master's degree in an education-related field from an accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Three years of K-12 teaching experience.

For master's applicants:

- Letter of intent
- Current resume
- Copy of current teaching certificate
- Transcripts
- Principal program application form
- Superintendent approval form
- Three letters of recommendation, with two of the letters from someone in a related supervisory role to the candidate
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.
- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Three years of K-12 teaching experience.

For superintendent certificate applicants:

- Application letter of intent that explains that candidate's interest and potential in pursuing an advanced degree in district level leadership.
- Current CV or academic resume
- Three letters of recommendation with two of the letters from someone in a related supervisory role to the candidate.
- Transcripts

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Master's degree for an accredited institution (30 credits of applicable coursework) with a minimum GPA of 3.000 or a 4.000 scale.
- Two years of K-12 educational leadership experience.

For EdD applicants:

- Application letter of intent that explains that candidate's interest and potential in pursuing an advanced degree in district level leadership.
- Current CV or academic resume
- Transcripts
- Three letters of recommendation with two of the letters from someone in a related supervisory role to the candidate
- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing preferred, although there is a possible pathway to the EdD if a candidate is initially admitted to the superintendent certificate program.
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.
- Master's degree for an accredited institution (30 credits of applicable coursework) with a minimum GPA of 3.000 or a 4.000 scale.
- Two years of K-12 educational leadership experience.

Learner Outcomes

2018 NELP District Standards

1. NELP Standard 1: Mission, Vision, and Improvement: Collaboratively lead, design, and implement a district mission, vision, and process for continuous improvement that reflects a core set of values and priorities that include data use, technology, values, equity, diversity, digital citizenship, and community.
2. NELP District Standard 2: Ethics and Professional Norms: Advocate for ethical decisions and cultivate professional norms and culture
3. NELP District Standard 3: Equity, Inclusiveness, and Cultural Responsiveness: Develop and maintain a supportive, equitable, culturally responsive, and inclusive district culture.
4. NELP District Standard 4: Learning and Instruction: Evaluate, design, cultivate, and implement coherent systems of curriculum, instruction, supports, assessment, and instructional leadership.
5. NELP District Standard 5: Community and External Leadership: Understand and engage families, communities, and other constituents in the work of schools and the district and to advocate for district, student, and community needs.
6. NELP District Standard 6: Operations and Management: Develop, monitor, evaluate, and manage district systems for operations, resources, technology, and human capital management.

7. NELP District Standard 7: Policy Governance and Advocacy: Cultivate relationships, lead collaborative decision making and governance, and represent and advocate for district needs in broader policy conversations.

8. NELP District Standard 8: Internship: Successfully complete an internship under the supervision of knowledgeable, expert practitioners that engages candidates in multiple and diverse district settings and provides candidates with coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and skills identified in NELP Standards 1-7 in ways that approximate the full range of responsibilities required of district-level leaders and enable them to promote the current and future success and well-being of each student and adult in their district.

2018 NELP Building Standards

1. NELP Building-Level Standard 1: Mission, Vision, and Improvement: Collaboratively lead, design, and implement a school mission, vision, and process for continuous improvement that reflects a core set of values and priorities that include data, technology, equity, diversity, digital citizenship, and community.

2. NELP Building-Level Standard 2: Ethics and Professional Norms: Understand and demonstrate the capacity to advocate for ethical decisions and cultivate and enact professional norms.

3. NELP Building-Level Standard 3: Equity, Inclusiveness, and Cultural Responsiveness: Develop and maintain a supportive, equitable, culturally responsive, and inclusive school culture.

4. NELP Building-Level Standard 4: Learning and Instruction: Evaluate, develop, and implement coherent systems of curriculum, instruction, data systems, supports, and assessment.

5. NELP Building-Level Standard 5: Community and External Leadership: Engage families, community, and school personnel in order to strengthen student learning, support school improvement, and advocate for the needs of their school and community.

6. NELP Building-Level Standard 6: Operations and Management: Improve management, communication, technology, school-level governance, and operation systems; to develop and improve data-informed and equitable school resource plans; and to apply laws, policies, and regulations.

7. NELP Building-Level Standard 7: Building Professional Capacity: Build the school's professional capacity, engage staff in the development of a collaborative professional culture, and improve systems of staff supervision, evaluation, support, and professional learning.

8. NELP Building-Level Standard 8: Internship: Successfully complete an internship under the supervision of knowledgeable, expert practitioners that engages candidates in multiple and diverse school settings and provides candidates with coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and skills identified in NELP standards 1-7 in ways that approximate the full range of responsibilities required of building-level leaders and enable them to promote the current and future success and well-being of each student and adult in their school.

Educational Research

The educational research faculty offer eleven courses on a regular basis in educational research. These courses are open to graduate students throughout the college and the university. In addition, we offer two minors in educational research, one is qualitative research methods and one in quantitative research methods. Students currently enrolled in any UW master's or doctoral program are eligible for these minors. Both minors require students to complete 16 credit hours, and a co-teaching experience in educational research.

Learner Outcomes

The goals of the educational research courses in the College of Education include developing the necessary skills, concepts, and understanding of research methodology to evaluate, use, and conduct research in a student's specific discipline. This goal requires the ability to do the following:

1. In a research study, critique the following the research problem and hypothesis; general design to ensure that correct conclusions are possible from the statistical analysis; statistical analysis procedures to establish their valid use in the study; reliability and validity of instruments used to collect data; and conclusions and interpretations to insure appropriateness of each.

2. Develop a problem appropriate for research. Examine a cross section of the current literature on the topic, placing the research problem within the context of the field.

3. Demonstrate knowledge of the reference sources available in a research library; know how and when to use available resources.

4. Compare and contrast research designs and methods and be able to identify examples, advantages, and disadvantages of each.

5. Be able to use statistics to describe a sample and make inferences.

6. Understand, design, and analyze results of various types of quantitative, qualitative, and mixed method research studies.

7. Understand the principles of measurement as they apply to specific studies.

Learning, Design, and Technology

The curriculum in Learning, Design, and Technology is designed to assist professionals in effectively developing, implementing, and evaluating systems, tools, strategies, and environments that enhance learning. Graduates from the program secure employment in PK-12 classrooms; school media and technology centers, and school district administrative offices; public, corporate, and government centers and training agencies; college and university faculty and administrative positions; design and development labs; product support teams; and consulting firms.

Degrees and Certificates Offered

Students who major in education with a concentration in Learning, Design, and Technology may choose one of the following certificate or degree programs: Online Instruction Certificate program, Master of Science in Education (M.S.), or Doctor of Education (Ed.D.). The program Web site (http://www.uwyo.edu/clad/) provides additional information.

Program Specific Admission Requirements

For certificate applicants:

- Personal Statement

- Transcripts

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For Master's applicants:

- Personal Statement
- Transcripts
- Three letters of recommendation
- Current academic Vitae or resume
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For Doctor of Educationapplicants:

- Personal statement
- Transcripts
- Three letters of recommendation
- Current academic Vitae or resume
- Demonstration of ability to do graduate work. Submit on of the following:
    - GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing
    - Academic Portfolio
    - Published Writing
    - Other artifact (i.e. thesis, software, curriculum)
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

Learner Outcomes

Foundational Knowledge in Learning, Design, and Technology

- Describe complex concepts and relationships within the field of Learning, Design, and Technology through relevant principles, theories, and frameworks from multiple perspectives.

- Analyze diverse learner and instructional needs.
- Evaluate impact of pedagogies/andragogies on learning outcomes.
- Create learning experience designs by integrating and applying appropriate learning theories, design strategies, and learning technologies.
- Design and support rigorous, relevant, equitable and inclusive learning experiences and environments.

Leadership & Innovation

- Explore emerging technologies and their potential applications in learning.
- Analyze project management principles in relation to learning experience design case studies and technology integration plans.
- Develop Learning, Design, and Technology leadership and project management skills.
- Build professional capacity and agency needed to enable and sustain change.

Research

- Read and analyze research relevant to education and technology.
- Design and conduct rigorous research studies.

Creativity

- Explain the nature of design practices and 'designerly thinking' from conceptual and applied perspectives.
- Explore roles of technology in creativity research and practice.
- Apply creative practices in teaching, learning, and research.
- Acquire a creative mindset.
- Cultivate a strong aptitude for creative problem-solving.

Technology

- Integrate tools across disciplines and contexts.
- Analyze digital design system processes and strategies for potential applications in multimodal learning and instruction.
- Evaluate the quality, accessibility, and effectiveness of current and emergent technology.
- Develop digital pedagogies/andragogies.

Higher Education Administration

The Higher Education Administration program serves the formal academic leadership development needs of persons aspiring to become leaders in higher education institutions. Adult learning, rural access to continuing education, workforce training leadership approaches, change management, and institutional operations are just some of the issues

you'll explore in UW's online higher education administration master's, doctoral, and certificate programs. We recognize that the pursuit of an online certificate or degree requires just as much student support as that of a traditional on-campus student. That's why we provide the same student services for those who are on-campus and those who are pursuing their degree online. Our HIED degree programs in higher education administration at the University of Wyoming balances theory with practice to give you the knowledge and skills you need to enter the field or advance at your current institution. Most importantly, you will gain an understanding of where you can make a difference as a leader in the vast field of post-secondary education. By the time you complete your program, you will be ready to level up your career and take your place as a skilled administrator in higher education, government or the nonprofit sector.

Degree and Certificates Offered

Education, M.A., Concentration in Higher Education Administration

Education, Ed.D., Concentration in Higher Education Administration

Community College Leadership Certificate

For certificate applicants:

- Application letter
- Transcripts
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's and Master's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For master's applicants:

- Transcripts
- Three letters of recommendation
- Personal statement
- Current academic resume
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for full admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale. Master's applicants under the minimum 3.000 GPA may in limited cases be eligible for probationary admission status. Please contact HIED faculty for more information.

For EdD applicants:

- Transcripts
- Three letters of recommendation
- Personal statement
- Current academic resume
- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Minimum of 3 years of full-time experience in higher education or a closely related field.
- Bachelor's and Master's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

Special Education

The graduate special education program is designed to prepare teachers to work with students with varied learning and behavior needs. Students in this program earn a Master of Arts in education with an emphasis in special education. Graduates are eligible for K-12 special education generalist licensure through the Wyoming Professional Teaching Standards Board.

Program Specific Admission Requirements

- Current resume including:
    - Educational experiences
    - Work experiences
    - Activities/honors
    - Other relevant information
- Transcripts
- Three letters of recommendation
- Professional Writing Sample including:
    - A description of your professional goals
    - An explanation of your commitment to Special Education

    - An explanation of your philosophy of education
    - An explanation of how this Special Education program fits your goal

- Copy of current Wyoming teaching certificate, evidence of certificate application, or evidence of district sponsorship.
- Signed Memo of Understanding
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

To be considered for admission, all applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.25 on 4.00 scale

Learner Outcomes

Upon completion of the Master of Arts program in Special Education, the candidates will demonstrate their knowledge and skills in:

1. Engaging in Professional Learning and Practice within Ethical Guidelines. Special education professionals practice within ethical and legal guidelines; engage in ongoing self-reflection to design and implement professional learning activities; and advocate for improved outcomes for individuals with exceptionalities and their families while considering their social, cultural, and linguistic diversity.
2. Understanding and Addressing Each Individual's Developmental and Learning Needs. Special education professionals use their understanding of human growth and development; multiple influences on development; individual differences; diversity, including exceptionalities; and families and communities to plan and implement inclusive learning environments and experiences that provide individuals with exceptionalities high-quality learning experiences reflective of each individual's strengths and needs.
3. Demonstrating Subject Matter Content and Specialized Curricular Knowledge. Special education professionals apply their understanding of the academic subject matter content of the general curriculum and specialized curricula to inform their programmatic and instructional decisions for learners with exceptionalities.
4. Using Assessment to Understand the Learner and the Learning Environment for Data-Based Decision Making. Special education professionals assess students' learning, behavior, and the classroom environment to evaluate and support classroom and school-based problem-solving systems of intervention and instruction. Special education professionals evaluate students to determine their strengths and needs, contribute to students' eligibility determination, communicate students' progress, inform short and long-term instructional planning, and make ongoing adjustments to instruction using technology as appropriate.
5. Using Effective Instruction to Support Learning. Special education professionals use knowledge of individuals' development, learning needs and assessment data to inform decisions about effective instruction. Special education professionals use explicit instructional strategies; employ strategies to promote active engagement and increased motivation to individualize instruction to support each individual. Special education professionals use whole group instruction, flexible grouping, small group instruction, and individual instruction. Special education professionals teach individuals to use meta-/cognitive strategies to support and self-regulate learning.

6. Supporting Social, Emotional, and Behavioral Growth. Special education professionals create and contribute to safe, respectful, and productive learning environments for individuals with exceptionalities through the use of effective routines and procedures and use a range of preventive and responsive practices to support social, emotional and educational well being. They follow ethical and legal guidelines and work collaboratively with families and other professionals to conduct behavioral assessments for intervention and program development.

7. Collaborating with Team Members. Special education professionals apply team processes and communication strategies to collaborate in a culturally responsive manner with families, paraprofessionals, and other professionals within the school, other educational settings, and the community to lead meetings, plan programs, and access services for individuals with exceptionalities and their families.

School of Pharmacy

292 Health Sciences, (307) 766-6120
FAX: (307) 766-2953
Web site: www.uwyo.edu/Pharmacy
Dean: Kem Krueger
Associate Dean of Students: Tonja Woods

Associate dean for Academic Affairs: Michelle Hilaire

Professor:

SREEJAYAN NAIR, B.S. College of Pharmaceutical Sciences, Manipol, India 1989; M.S. 1991; Ph.D. 1996; Professor of Pharmacology 2014, 2002.

Associate Professors:

MICHELLE BLAKELY, B.A. University of South Alabama 2005; M.Ed. Auburn University 2008; Ph.D. 2011; Associate Professor of Social and Administrative Pharmacy 2023, 2018.

JARED S. BUSHMAN, B.A. University of Utah 2003; M.S. University of Rochester 2006; Ph.D. 2008; Associate Professor of Pharmaceutical Science 2020, 2014.

GUANGLONG HE, B.S. Anhui Normal University 1986; M.S. Chinese Academy of Sciences 1994; Ph.D. 1997; Associate Professor of Medicinal Chemistry 2019, 2013.

KEM P. KRUEGER, Pharm.D. University of Missouri-Kansas City; Ph.D. University of Arizona 1998; Associate Professor of Social and Administrative Pharmacy 2011, 2005.

TRACY D. MAHVAN, B.S. University of Colorado 1995; Pharm.D. 1998; Associate Professor of Pharmacy Practice 2006, 2000.

RESHMI L. SINGH, B.S. Bombay University 1999; M.S. University of Toledo 2001; Ph.D. University of Minnesota 2005; Associate Professor of Social and Administrative Pharmacy 2019, 2013.

Assistant Professors:

SHEBA DAVID, B. Pharm. Tamilnadu MGR Medical University 1998; Ph.D. Jadavpur University 2007; Assistant Professor of Pharmaceutical Sciences 2022.

NERVANA ELKHADRAGY, B.S. Cairo University 2004; Pharm.D. Purdue University 2008; M.S. 2018; Ph.D. 2020. Assistant Professor of Social and Administrative Pharmacy 2020.

Clinical Professor:

MICHELLE L. HILAIRE, Pharm.D. Duquesne University 2002; Clinical Professor of Pharmacy Practice 2016, 2010, 2004.

JAMIE R. HORNECKER, B.S. Texas Tech University 1999; Pharm.D. University of Wyoming 2003; Clinical Professor of Pharmacy Practice 2012, 2005.

TONJA M. WOODS, Pharm.D. University of Wyoming 2002; Clinical Professor of Pharmacy Practice 2023, 2009, 2003.

Clinical Associate Professors:

JED DOXTATER, B.S. University of Montana 2006; M.S. University of North Dakota 2013; Clinical Associate Professor 2021, 2015.

BECKY S. LINN, B.A. University of Wyoming 1997; Pharm.D. 2002; Clinical Associate Professor 2020.

JANELLE L. KRUEGER, B.S. University of Wyoming 1992; M.S. University of Kansas 1997; Clinical Associate Professor of Pharmacy Practice 2013, 2005.

ALLISON M. MANN, B.S. University of Colorado Boulder 2004; Pharm.D. University of Colorado Denver 2009; Clinical Associate Professor of Pharmacy Practice 2020.

LEENA D. MYRAN, B.S. University of Wyoming 2000; Pharm.D. 2012; Clinical Associate Professor of Pharmacy Practice 2020.

JEREMY VANDIVER, B.A. University of Colorado 2006; Pharm.D. University of Colorado 2010; Clinical Associate Professor 2020.

Clinical Assistant Professors:

JESSICA PAPKE, PharmD, University of Wyoming 2017; Clinical Assistant Professor 2020.

LAVINIA SALAMA, Pharm.D, Albany College of Pharmacy and Health Sciences 2020; Clinical Assistant Professor Pharmacy Practice 2022.

Associate Lecturers:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assocaite Lecturer of Medical Laboratory Science 2021, 2016.

Senior Lecturer:

ANTOINETTE K. BROWN, B.S. University of Wyoming 1992; Senior Lecturer 2024.

DAVID C. BRUCH, B.S. University of Wyoming 1998; Pharm.D. 2010; Senior Lecturer 2023.

Drug Information Director:

MELISSA L. HUNTER, B.S. University of Wyoming 2000; Pharm.D. 2004; Senior Research Scientist 2013, 2007.

Director of Postgraduate Education:

Elliott Sogol, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

Professors Emeriti:

Emery Brunett, Ph.D.
Bruce W. Culver, Ph.D.

E. Kurt Dolence, Ph.D
Linda Gore Martin, Pharm.D.
Kenneth F. Nelson, Ph.D.
Robert B. Nelson, Ph.D.
Robert D. Scalley, Pharm.D.
Beverly, Sullivan, Pharm.D.
M. Glaucia Teixeira, Ph.D.
Weeranuj Yamreudeewong, Pharm.D.

Deans Emeriti:

John H. Vandel, B.S. Pharmacy
Linda Gore Martin, Pharm.D.

Vision, Mission and Values

Vision

The University of Wyoming School of Pharmacy (UWSOP) is nationally recognized for its distinguished and collaborative teaching, research, pharmacy practice, and its entrepreneurial spirit.

Our graduates are highly skilled health professionals and leaders. Our graduates thrive and innovate in diverse and dynamic environments.

Mission

The University of Wyoming School of Pharmacy (UWSOP) advances the holistic development of our learners, preparing them to embrace change and positively impact the health and well-being of the communities that they serve. We engage in interdisciplinary teaching, research, practice, and service that results in meaningful innovations in healthcare, and improves the health and wellness of Wyoming, national, and global communities.

Statement of Values

The University of Wyoming School of Pharmacy community is committed to supporting and promoting individual and collective excellence in teaching, research, service, and pharmacy practice.

We value learning, collaboration, responsibility, compassion, respect, integrity, diversity, equity, and inclusion in all endeavors.

Graduate Expectations

Our graduates will be recognized and respected for:

- Leading positive change in the communities, organizations, industries, and professions that they serve
- Engaging in collaborative opportunities across disciplines and professions
- Providing evidence-based, empathetic, patient-centered care
- Thinking critically, creatively, ethically, and pragmatically
- Thriving and innovating in dynamic, diverse, and digital environments
- Ability to adapt in an ever-changing environment
- Dedication to excellence and integrity
- Communicating effectively across a wide range of audiences
- Embracing an entrepreneurial spirit

Learning Outcomes

The University of Wyoming adheres to the American Association of Colleges of Pharmacy Curricular Outcomes and Entrustable Professional Activities (COEPA) 2022. This multipage document (and its supplements) can be accessed at https://www.aacp.org/resource/educational-outcomes-and-epas. The school has outlined student/curriculum learning outcomes; these are available on the school website.

Student/Faculty Relations

The faculty and staff at the School of Pharmacy (SOP) treat students as adults and expect appropriate behavior as beginning professionals. The School of Pharmacy recognizes that the profession of pharmacy demands of its members the utmost degree of professional competence, ethical behavior, and integrity. Upon enrolling at the University of Wyoming SOP and at the start of each academic year, all students will sign a pledge acknowledging that they have received and read the current Honor Code and that they have made a personal commitment to uphold the code and abide by its principles. Similarly, the School of Pharmacy Professionalism Policy for faculty and staff is built on the foundation of respect for others, personal responsibility, the creation and maintenance of trust, and honesty and truthfulness. The administration, faculty, staff, students, and alumni of the School of Pharmacy at the University of Wyoming should strive to set an example of ethical leadership and professional behavior as those traits are essential for good social and business interactions.

Accreditation and Membership

In Wyoming, as in most other states, one requirement for registration as a pharmacist is graduation from an accredited entry-level Pharm.D. program. The Accreditation Council for Pharmacy Education (ACPE), the national accrediting agency for pharmacy, accredits pharmacy degree programs.

The Doctor of Pharmacy program at UW was most recently accredited in 2020 following an on-site evaluation by the ACPE in October 2021. Verification of current accreditation status may be made by: a) contacting the Dean's Office, School of Pharmacy; b) connecting to www.uwyo.edu/pharmacy/; c) contacting the Accreditation Council for Pharmacy Education (190 South LaSalle Street, suite 2850 Chicago IL 60603, (312) 664-3575; cinfo@acpe-accredit.org) or d) by checking the latest Annual Directory of Accredited Professional Programs published by ACPE.

The school is a member of the American Association of Colleges of Pharmacy and adheres to its educational standards.

Pre-Pharmacy Program and Requirements

Applicants for the Pharm.D. program must complete prepharmacy requirements before they can be admitted. Usually, two academic years totaling 67 credit hours (which may include summer and J-Term semesters) is required to complete prepharmacy requirements.

All prepharmacy coursework must be completed by the end of the spring semester prior to matriculation in the professional program.

Graduates of fully accredited high schools may be admitted to the prepharmacy program with a math placement score of 3 or an ACT math score of 23.

Early Assurance Program (EAP): Students are accepted to the EAP program based on their high school GPA and ACT/SAT scores. High School students can apply to the Pharm.D. program as they are applying for admission to the University of Wyoming as first-year students.

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- OR

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

Doctor of Pharmacy (Pharm.D.) Program

Admission

Admission to the Pharm.D. degree program is limited to 52 students per year and is highly competitive. Admission is granted by the School of Pharmacy Dean upon the advice of the School of Pharmacy Admissions Committee. Students can apply to the Pharm.D. program as freshman via the Pharmacy Early Assurance program. All students applying to the UW School of Pharmacy must use the PharmCAS application (www.pharmcas.org) process. All materials are submitted to UW using this service. The School of Pharmacy requires no supplemental application. Students granted admission to the Pharm.D. program will have to pay a one-time, non-refundable, seat fee to guarantee their placement into the entering class. In addition students will be required to complete any immunizations necessary for experiential rotations. As part of a College of Health Sciences requirement students are also expected to complete and pass a background check prior to final admission to the professional program.

Students must meet, with or without accommodation, specified physical requirements. The School of Pharmacy's Technical Standards can be found at http://www.uwyo.edu/pharmacy/_files/documents/admin/uwsop-technical-stds-3-2013.pdf.

The School of Pharmacy provides opportunities to ensure that our students have co-curricular experiences in our didactic program. Providing co-curricular options allows students to choose activities that interest them and will allow them to grow as future health professionals. A portion of co-curricular activities throughout the degree program will be required and assessed.

Students at the University of Wyoming SOP are immersed in interprofessional education opportunities during all years of the Pharm.D. program. Interprofessional education provides experiences for Pharm.D. students to collaborate and share knowledge with learners in other health sciences disciplines, which fosters readiness for working in team-based care environments in their future careers.

Program of Study

Requirements for Graduation

The degree of Doctor of Pharmacy (Pharm.D.) is granted upon satisfactory completion of 146 hours in the Pharm.D. curriculum in accordance to the school's academic standards and the fulfillment of the general university requirements. The School of Pharmacy does not accept transfer students into the professional pharmacy program.

Graduation with Honors

The University of Wyoming School of Pharmacy is authorized to grant honors for academic excellence. A Doctor of Pharmacy with honors designation is awarded by the University of Wyoming to students who graduate with exceptional scholarship in Pharmacy.

Exceptional scholarship in pharmacy is defined as a student who is on track to graduate with their class from the University of Wyoming School of Pharmacy and is in the top 5% of their class based on their pharmacy GPA (as assessed at the end of the fall semester of the P4 year). The Pharmacy GPA is calculated on the basis of required professional pharmacy curriculum coursework and excludes required or selected elective hours. The honors distinction must be approved by a School of Pharmacy faculty vote.

Academic Honesty and Professional Conduct

Students admitted to the Pharm.D. program are required to participate and sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Pharm.D. program.

Academic Standards for Progression and Graduation

The course of study in the School of Pharmacy (SOP) is four academic years leading to a Doctor of Pharmacy degree (Pharm.D). The required Pharm.D. coursework is organized in a prescribed, non-negotiable, sequential manner. All students have a P-designation identifying their year in the program (P1, P2, P3, P4). Required pharmacy courses (PHCY courses) from any national or international pharmacy programs will not be applied to the UW Pharm.D degree. The student may petition that coursework to be applied to the program but must replace those credit hours with additional elective courses. Courses taken as S/U, including electives, are usually considered unacceptable in fulfilling program requirements. Auditing courses for the PharmD degree is not allowed.

The academic standards herein described are expected to be followed by all students admitted to the Pharm.D. program. Any violation will constitute grounds for probation or termination from the Pharm.D. program and will delay progression towards advanced coursework. Probation is a period of time in which the student is allowed to continue in the program under supervision. Students that do not meet academic standards and are placed on probation will have to submit a petition that includes an individualized plan of study for the next semester. This plan must be developed by the student in agreement with and signed by the academic advisor. The petition will be reviewed by the Student Affairs Committee (SAC), which will send a recommendation to the Dean for approval or denial. A leave of absence may be necessary in cases where poor academic performance is due to a medical or personal hardship. The student may appeal sanctions related to violations of the academic standards and decisions that result in probation and termination in the program. Appeals start at the School level, followed by College and University levels, according to policy.

Masters of Health Service Administration (MSHSA) Students will follow the Admission Guidelines and Academic Progression information listed on the following website for Graduate Students: Graduate Student Regulations and Policies

Academic Standards

1. A grade of D or lower, or course withdrawal, in any required course of the Pharm.D. program constitutes failure to progress toward the Pharm.D. degree and result in probation.
2. A grade of D or lower, in any elective course of the pharmacy program constitutes failure to progress toward the Pharm.D degree and result in probation.
3. Students must earn a GPA of 2.000 or better in both University coursework and pharmacy program courses each semester and cumulatively.
4. Students must be considered full time with coursework applicable to the pharmacy degree during each semester while in good standing.
5. Incomplete coursework must be completed prior to progression into the next academic semester and will halt progression in experiential coursework.
6. Students who earn a D or lower in any experiential coursework will have their rotation sequence halted.
7. A course taken in the professional pharmacy program course can be repeated only once.
8. A maximum of three required courses are allowed to be repeated during the degree program.
9. Failure to meet any academic standards for two semesters (not necessarily consecutive) in didactic and/or experiential coursework results in automatic termination from the Pharm.D. program.
10. Failure of two experiential courses, not necessarily consecutive, results in termination from the Pharm.D. program.

Elective Credits Policy

The purpose of electives at the School of Pharmacy (SOP) is to complement the pharmacy curriculum, expand knowledge within a specific pharmacy discipline and to ensure completion of the general liberal arts education of the University of Wyoming. Therefore, the following policies have been approved by the faculty for the Doctor of Pharmacy program (thereafter, Program).

As published in the University Catalog and SOP students are required to complete a minimum number of electives, specific for the student's year of matriculation into the Program. This number may vary and may be modified as adjustments are made to the professional curriculum to comply with accreditation standards. Students will be made aware of this number during initial orientation into the Program and kept informed of any changes during their stay in the academic program.

Students must take elective courses to satisfy first the requirements of the University Studies Program (thereafter, USP) and then complete the remaining required electives credits as general elective coursework (Program-approved required number of elective hours).

- Students are required to complete all USP requirements even if they exceed the minimum number of elective hours initially defined in their Program in order to graduate from UW.
- Transfer or online courses from other accredited institutions may be honored as elective credits toward the Program. Students are solely responsible to have all transcripts from other schools sent to the University and make sure that the Director of Student Services and advisors are aware of any transfer work in the Pharm.D. program.
- All required hours (including electives) must be completed by students before progressing into the P4 rotation year. Students will not be allowed to progress toward the 4th year rotations if university studies requirements were not fulfilled.
- Students shall not take electives as Satisfactory/ Unsatisfactory (S/U) credit.

- All courses taken in the preprofessional program or to fulfill requirements in a previous degree cannot be retaken to count as elective hours in the Program. In addition, students cannot use previously taken credit (prior to the professional program) as elective credit in the professional program.
- Credit by exam through the Foreign Languages Dept. will not be accepted as fulfillment of elective requirements in the Program. However, it is a student's right to earn credit by exam for Wyoming History and Government, while receiving elective credits toward the Program and fulfilling USP requirements.
- For procedures and handling of all exceptions to these policies, the students should consult the student handbook, the pharmacy student Share Point site, the SOP website, or check with the Director of Pharmacy Student Services or the Associate Dean of Students.

Curriculum

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3
- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1
- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2
- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1
- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
-

- PHCY 6471 - Internal Medicine II Credits: 4
- OR

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4
-

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4
- Students complete 4 sections of PHCY 6465, 4 credits each.

- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)
-

- Students need to take one:

- PHCY 6471 - Internal Medicine II Credits: 4
- or

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Graduate Study

Master of Business Administration/Doctor of Pharmacy (M.B.A./Pharm.D.) dual degree.

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree.

Masters in Health Services Administration

292 Health Sciences, (307)766-6120

Website: https://uwyohealthadminms.org/

Director of Postgraduate Education: Elliott Sogol

Faculty

DAVID B. BRUSHWOOD, B.S.Pharm. University of Kansas 1975; J.D. University of Kansas 1981.

ELLIOTT SOGOL, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

The School of Pharmacy offers the Master of Science in Health Services Administration (MSHSA).

This degree is geared toward new and mid-career practitioners including pharmacists, nurses, physicians, social workers, and other health care professionals who want to become department directors, patient safety coordinators and/or directors, regulatory compliance officers, clinical research associates, health outcomes researchers or take on leadership roles as advanced practice practitioners.

The program also benefits health care workers in fields such as management positions, pharmaceutical sales representatives, medical science liaisons, and pharmacy technician educators as well as new clinical faculty at newly established pharmacy colleges.

Available nationwide the master's program is delivered via a mix of online self-study and online project-based coursework.

The program can be completed in two years of part-time study. Students are requested to travel to the UW Laramie campus for two weekend seminars during the two-year program (based on travel restrictions during the pandemic this course was held online). Graduates will be expected to complete 30 credit hours of coursework and pass a comprehensive final exam. Coursework will be completed over five consecutive semesters however students can take up to 6 years to complete the program.

A prospective student should have earned at least a bachelor's degree from a regionally accredited institution.

Academic Honesty and Professional Conduct

Students admitted to the Master of Science in Health Services Administration program are required to sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Master of Science in Health Services Administration program.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration
o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership
o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2
- Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- PHCY 5XXX The Chemistry of Poisonings 2 Credits

  PHCY 5XXX The Process of Forensic Science 2 Credits

  Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2
- Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5XXX Biomedical Ethics 3 Credits

  PHCY 5XXX Clinical Research Regulation 2 Credits

  Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Cybersecurity 2 Credits

  PHCY 5XXX HIPPA Compliance 2 Credits

  PHCY 5XXX Disaster Management 2 Credits

  Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Biomedical Ethics 3 Credits

  PHCY 5XXX HIPAA Compliance 2 Credits

  PHCY 5XXX Clinical Research Regulation 2 Credits

  Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2
- Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Information Design and Analysis 2 Credits

  PHCY 5XXX Healthcare Information Systems 2 Credits

PHCY 5XXX Information Managment 2 Credits

Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Professional Writing in Healthcare 2 Credits

PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits

PHCY 5XXX The Healthcare Message 2 Credits

Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753
FAX: (307) 268-2416
Web site: www.uwyo.edu/pharmacy/mls-program/index.html
Director: Jed M. Doxtater, MS MLS (ASCP)^{CM}

Associate Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Associate Clinical Faculty of Medical Laboratory Science 2021, 2015.

Associate Lecturer

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Associate Lecturer of Medical Laboratory Science, 2021, 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

1. Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.
2. Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.
3. Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.
4. Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.
5. Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.
6. Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.
7. Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.
8. Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

- Application of safety and governmental regulations and standards as applied to clinical laboratory science;
- Principles and practices of professional conduct and the significance of continuing professional development;
- Communications sufficient to serve the needs of patients, the public and members of the health care team;
- Principles and practices of administration and supervision as applied to clinical laboratory science;
- Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- Principles and practices of clinical study design, implementation and dissemination of results;
- Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and biohazard and safety.

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program them become eligible to sit for national certification examinations for the profession.

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs.

Contract information:

National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119

http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

- Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.
- Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.
- Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.
- Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory Science degree. See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Students may enter the MLS professional program in the fall or spring semester of their junior year. Application for the program must be submitted to the MLS program director before finals week of the first semester the student has declared the MLS major and is enrolled in a MLS course.

Prior to participating in the enrichment experiences, students will be subject to that agency's requirements for a background check, drug testing and/or drug abuse prevention policies. Students are then subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background check should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo). The Casper College MLT background check is a valid substitute if final semester of MLS program falls within 1 year of check.

After completion and submission of the program application, the student must schedule an interview with the program director for an evaluation for acceptance to the MLS program. Interviews must be completed before the student enrolls in the succeeding semester of coursework. It is the students' responsibility to complete and submit applications, and to schedule an interview with the MLS program director by the due dates.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

The MLS program will provide documentation requirements, as each site may have different requirements for participation (e.g. vaccination records, HIPPA training, safety training, background check/drug screen etc.). If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR, and program director to ensure all required documentation is provided.

Liability insurance will be required for students entering their senior year coursework. Liability insurance is provided through the University of Wyoming at a cost of $13.00/year to the student.

Health Requirements: The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee. Other health records may be required to participate in enrichment activities including MMR, Tetanus, drug screen, and background check/drug screen.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

- Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.
- Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.
- Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.
- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

- Move freely and safely about a laboratory.
- Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.
- Travel to numerous clinical laboratory sites for practical experience.
- Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.
- Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.
- Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.
- Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.
- Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

- Read and comprehend technical and professional materials.
- Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.
- Clearly instruct patients prior to specimen collection.
- Effectively, confidentially and sensitively converse with patients regarding laboratory tests.
- Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.
- Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

- Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.
- Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.
- Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.
- Be flexible and creative and adapt to professional and technical change.
- Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
- Adapt to working with unpleasant biologicals.
- Support and promote the activities of fellow students and of health care professionals.
- Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.
- Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4
- **OR** MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)

- SOC 1000 - Sociological Principles Credits: 3 **OR** ANTH 1200 Introduction to Cultural Anthropology
- **OR** PSYC 1000

- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)
- OR

- COMM 2010 - Public Speaking Credits: 3
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)
- OR

- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3

- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2
- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2
- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1
- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4
- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- **Take a minimum of 8 credits from the following courses:**

- LIFE 3050 - Genetics Credits: 4
- OR

- LIFE 3600 - Cell Biology Credits: 4
- OR

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- OR

- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
- OR

- PHCY 4441 - Intro Health Institution Leadership Credits: 3
- OR

  Course Approved by Program Director

- STAT 2050 - Fundamentals of Statistics Credits: 4
- **Take a minimum of 3 credits from the following courses:**

- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- OR

- PSYC 4300 - Adolescent Development Credits: 3
- OR

- SOC 3000 - Social Change Credits: 3
- OR

- SOC 3550 - Medical Sociology Credits: 3
- OR

  Course approved by Program Director

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2
- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)
- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum- Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

School of Politics, Public Affairs, and International Studies

Arts and Sciences Building, Room 208

(307) 766-6484

Web site: **www.uwyo.edu/sppais**

School Head: **Stephanie Anderson**

SPPAIS Faculty:

Professors:

STEPHANIE B. ANDERSON, B.S.F.S. Georgetown University 1989; M.Sc. The London School of Economics and Political Science 1990; Ph.D. University of Cambridge 1996; Professor of Political Science 2017, 2005.

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

ANDREW D. GARNER, B.S. Kennesaw State University 2002; Ph.D. University of Mississippi 2007; Professor of Political Science 2014, 2008.

JEAN A. GARRISON, B.A. University of Wyoming 1990; M.A. University of South Carolina 1992; Ph.D. 1996; Professor of Political Science, International Studies 2010, 2001.

BRENT L. PICKETT, B.A. Wichita State University 1989; M.A. University of Colorado at Boulder 1991; Ph.D. 1995; Professor of Political Science - Casper 2010, 2005.

ROBERT A. SCHUHMANN, B.S. Appalachian State University 1987; M.P.A. 1989; Ph.D. Virginia Polytechnic Institute and State University 1995; Professor of Political Science 2013, 1995.

Associate Professors:

NEVIN AIKEN, B.A. University of Western Ontario 2003; M.A. 2004; Ph.D. University of British Columbia 2010; Associate Professor of Political Science and International Studies 2016, 2010.

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.

NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Assistant Professor of Geography and International Studies 2016.

ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Assistant Professor of Geography and International Studies 2016.

JUSTIN T. PICCORELLI, B.A. Loyola Marymount University 2004; M.P.A. Cleveland State University 2009; Ph.D. 2014; Assistant Professor of Public Administration 2015.

THOMAS R. SEITZ, B.S. University of the State of New York 1988; M.A. University of Kent at Canterbury 1989; Ph.D. University of Cambridge 1997; Associate Professor of International Studies 2015, 2009.

Assistant Professors:

JASON B. MCCONNELL, B.S. University of Wyoming 1998, MA 2003, J.D. 2005; Ph.D. Washington State University 2017; Assistant Professor of Political Science 2018.

GABEL C. TAGGART, B.S. Brigham Young University 2010; M.P.P. 2013; Ph.D. Arizona State University 2017; Assistant Professor of Public Administration 2018.

RYAN D. WILLIAMSON, B.A. University of Alabama at Birmingham 2011; Ph.D. University of Georgia 2017; Assistant Professor of Political Science 2023.

Senior Academic Lecturer:

ANNE ALEXANDER, B.B.A. New Mexico State University, 1991; M.S. 1993; Ph.D. University of Wyoming, 2001; Senior Academic Lecturer, 2019, 2013; Interim Provost and Vice President for Academic Affairs 2020.

Associate Lecturer:

RUTH BJÖRKENWALL, B.A. University of California at Berkeley, 1989; M.A. 2004; Associate Lecturer 2018, 2013.

Professors Emeriti:

Winberg Chai, Larry Hubbell, James King, Garth Massey, Margaret M. Murdock, Stephen C. Ropp, Oliver Walter

Associate Professor Emeritus:

Alan E. Schenker

Adjunct Faculty:

(see department section following name for academic credentials)

Tanja Börzel, political science, Freie Universitaet Berlin

Roger Coupal, agriculture and applied economics

Michael Harkin, anthropology

Mark Peterson, management and marketing

Thomas Risse, political science, Freie Universitaet Berlin

Amy Roberts, elementary and early childhood education

Chris Rothfuss, international studies

Mona Schatz, social work

Ed Sherline, philosophy

J.J. Shinker, geography

Jim Thurman, international studies, political science - Central Wyoming College

International Studies

Undergraduate Learning Outcomes

- Goal 1: International Studies majors learn to recognize and rigorously examine economic, political, and social-cultural dimensions of international processes and issues.
- Goal 2: Majors develop expertise in an interdisciplinary concentration of their choice, either "Development Studies" or "Security Studies," both of which are in high demand in public, private, and nonprofit sectors.
- Goal 3: Majors learn the importance of distinctions between world regions, as well as to explain the global economic, political, and social-cultural processes by which they are interrelated.
- Goal 4: Majors achieve basic proficiency in a second language and appreciate the benefits of that language for engaging with international processes and issues, including through experiential learning in a foreign locale.
- Goal 5: Majors develop critical reading, writing, analysis, and engagement skills that prepare them for work in internationally oriented government agencies, private enterprises, nonprofits, and nongovernmental organizations

Graduate Learning Outcomes

All students who graduate with a Master's degree in international studies will be able to:

Engage in independent empirical inquiry that makes an original contribution to the field of study;

Think critically and reason logically about a problem and the ways it can be answered;

Employ the best recognized methods appropriate to their research;

Effectively develop alternative explanations, use theories and concepts to guide the research project, and conduct the work in such a way that disproof is possible; and

Present their work intelligently, with both written and oral capability at a level of professional expectations.

They will have a broad understanding of:

International affairs;

The diversity of national cultures and social structures;

Political and economic systems;

Major global trends and problems

Political Science

Political Science is the study of how societies govern themselves and interact with one another. Courses of instruction in the Political Science major are offered in the following subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration. Areas of focus include analysis of government structures and processes, citizens' influence on government, policy content, philosophical concepts and traditions, political systems of other states, and resolution of conflicts between nations. By developing critical thinking and analytical skills, the major prepares students for effective participation in the political process, successful careers in the public and private sectors, and further study in law, political science, and public administration.

In 1925, the state legislature passed a law requiring the study of the U.S. and Wyoming constitutions by all University of Wyoming students. Political Science 1000 satisfies this requirement, but the requirement can also be satisfied by special examination given periodically by the School of Politics, Public Affairs, and International Studies.

Learning Outcomes

We continuously and actively assess the Political Science undergraduate curriculum to ensure that the following learning outcomes are being met for each of our graduates:

1. Acquisition of a knowledge and understanding of the values, beliefs, and institutions that constitute governing processes;
2. Acquisition of an understanding of the distinctions among the major subfields of the discipline including: American politics and law; international relations; comparative politics; and political theory;
3. Development of a knowledge and understanding of citizens' roles within governing processes;
4. Acquisition of a knowledge of the theories and analytic skills necessary to evaluate conflicting arguments, assemble and present appropriate evidence, and make reasoned conclusions from the evidence available;
5. The ability to communicate effectively, both orally and in written form.

Undergraduate Major

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours. Students are required to complete the following four introductory courses: POLS 1000; POLS 1200 or POLS

1250; POLS 2310; and POLS 2460 or POLS 3600. Students are also required to take at least one seminar in political science

(and its prerequisites); 8 hours of a single foreign language or equivalent credit by examination as determined by the

Department of Modern and Classical Languages; STAT 2050 or STAT 2070; and a minimum of 9 hours of upper division credit in political science. A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Undergraduate Minors

The school offers optional undergraduate minors in American politics, international relations and comparative government, public law, and political theory. Eighteen hours are required in each minor, including 9 hours of upper-division courses and one seminar. A maximum of 3 hours of internship credit may be applied towards the 18 hours required for the political science minor. At least 12 credit hours in a minor must be from courses not counted toward the student's major. Information relating to specific courses fulfilling minor requirements may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Teacher Education

The teacher certification program in Secondary Social Studies Education, with a concurrent major in Political Science is available through the College of Education. A minimum 2.500 UW grade point average and a 2.500 grade point average in Political Science and Social Studies content are required to change majors. Further information may be found under the College of Education section in this Catalog.

Graduate Study

The Master of Arts and the master of public administration are offered by the School of Politics, Public Affairs, and International

Studies. The school's mission is to give graduate students an understanding of the theories and methods necessary for success in (1) research or in post-baccalaureate study in any of the subfields in political science, (2) high school teaching in social science, or (3) careers in policy analysis or public administration in local, state, or federal government, or international governmental, non-profit, or non-governmental organizations. Our graduate students have progressed to senior positions in government, the U.S. Foreign Service, and international organizations; they have pursued rewarding careers in education and the private sector; and they have advanced to Ph.D. programs in political science and related fields.

School of Teacher Education

113 McWhinnie Hall, (307) 766-3130
Web site: www.uwyo.edu/ste

School Director: Scott Chamberlin

School of Teacher Education offers a wide variety of undergraduate teacher education degrees and minors, graduate degrees in curriculum and instruction, as well as several endorsement and certificate programs to prepare our students to be successful educators. Explore our diverse programs, career opportunities, and research possibilities with our dynamic faculty members.

Admission to the B.A. and B.S. Programs in the College of Education

New first-time students who meet the University of Wyoming's standards for admission may declare their major in Elementary Education, Secondary Education in a specific content area, or Education Undecided (EDUD), provided that they have a minimum ACT Composite score of 21 and an ACT Math score of 21 or a minimum new SAT combined score of 1060 with a minimum SAT Math score of 530. A lower ACT/SAT Math score can be replaced by a Math Placement Examination (MPE) score of 2 or higher. Education Undecided majors should decide on a specific content area no later than the first semester of their sophomore year.

All incoming students pursuing teacher certification and/or teacher endorsement programs must undergo an initial criminal background check prior to full admission to the College of Education. A second background check is included as part of the state application process for the Wyoming Substitute Teaching Permit, which is required for continuing the B.A. and B.S. programs after 60 credits.

For those students who do not meet the above admissions requirements, it is suggested that they major in exploratory studies (EXPL) so that they will receive more appropriate advising and access to support services through Advising, Career and Exploratory Studies until they have attained a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Current UW students who wish to change their major to Education but do not yet have a UW grade point average must wait until they meet the requirement of a minimum 2.750 UW grade point average, with at least 15 UW credits posted to their transcript. It is recommended that they complete a Program Change form and contact the College of Education Office of Student Success in McWhinnie Hall, room 100 to initiate the background check process. Students' progression through the Education curriculum could be delayed until all requirements are fulfilled and their major officially changed to Education.

Transfer students from out of state institutions, as well as from Wyoming community colleges wishing to declare a major in Education must have completed a minimum of 15 transferable credits, including the USP 2015 "Q" requirement (as determined by the UW Registrar), with a final grade higher than a C- to do so. Transfer students must have a minimum Transfer GPA of at least 2.750 and successfully complete an approved background check.

For transfer students not meeting these requirements, it is suggested that they major in exploratory studies (EXPL) so that they will receive more appropriate advising and access to support services through Advising, Career and Exploratory Studies until they meet requirement of a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Re-admitted students who return to UW after two or more semesters away, and wish to (re-)declare a major in Education, must have a minimum 2.750 UW GPA (with at least 15 UW credits) to do so and successfully complete an approved background check.

The following curricula summarize the programs offered by the College of Education. Students complete content courses in their major as well as professional education courses, some of which can also be counted towards their University Studies Program requirements. The University Studies Program requirements include:

FY course or USP elective Credits: 3

Communication I (COM1) Credits: 3

Communication II (COM2) Credits: 3

Communication III (COM3) Credits: 3

Quantitative Reasoning (Q) Credits: 3

Physical and Natural World (PN) Credits: 6

Human Culture (H) Credits: 6

U.S. & Wyoming Constitutions (V) Credits: 3

The minimum total credit hours required to complete a degree in Education is 120. Of the minimum credit hours required to complete a program, 42 credit hours must be completed at the upper division level (3000-level or higher), with 30 of those credits being completed at UW. Additional College of Education requirements are:

1. 2.750 UW Total Institution grade point average

2. 2.500 grade point average in the content courses required for each specific major

3. A valid Wyoming substitute teaching certificate

Academic Advising

Students are assigned an academic advisor who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their advisor regularly. The College of Education Student Success Center coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Further information on each program is available in:

College of Education Student Success Center

McWhinnie Hall, room 100

Dept. 3374, 1000 E. University Ave.

Laramie, WY 82071

(307) 766-2230

Acceptability of Coursework

Courses taken to satisfy professional education requirements and major content requirements must be taken for a conventional grade (A-F) unless offered for S/U grading only.

Professional education courses taken at another institution must come from an accredited Educator Preparation Program (e.g. NCATE, CAEP, AAQEP) to be accepted for a degree and/or teacher certification program. Courses remain subject to review for applicability to UW requirements by the Registrar's Office and by the College of Education Student Success Center. Syllabi of completed courses may be requested.

The College of Education does not accept transfer credits for professional education or content area courses with equivalents at UW for courses with final grades of a C- or less.

The College of Education encourages students to take teaching methodology and student teaching coursework or credits from the University of Wyoming whenever possible.

Student Responsibility

College of Education students are responsible for knowing and meeting graduation requirements. Students are expected to maintain a 2.750 UW Total Institution grade point average to enter the advanced teacher education sequence to graduate. Prior to enrolling in professional education courses, students are expected to have met the specific program and course prerequisites as listed in this publication. Students are expected to make reasonable academic progress toward completion of a degree.

Undergraduate Programs

Bachelor of Science

Agricultural Education, B.S.

- Secondary Agricultural Education with Concurrent Major in Agricultural Business, B.S.
- Secondary Agricultural Education with Concurrent Major in Agricultural Communications, B.S.
- Secondary Agricultural Education with Concurrent Major in Animal and Veterinary Science, B.S.

Bachelor of Applied Science

Career and Technical Education

- Secondary Career & Technical Education with an Emphasis in Business, B.A.S
- Secondary Career & Technical Education, B.A.S.
- Secondary Career & Technical Education with Concurrent Major in Human Development & Family Science, B.A.S.

Bachelor of Arts

Elementary Education

- Elementary Education, B.A.

Elementary/Special Education

- Elementary Education/Special Education, B.A.

Secondary Education

- Secondary English Education with Concurrent Major in English, B.A.
- Secondary Mathematics Education with Concurrent Major in Mathematics, B.A.
- Secondary Modern Languages Education with Concurrent Major in French, B.A.
- Secondary Modern Languages Education with Concurrent Major in German, B.A.
- Secondary Modern Languages Education with Concurrent Major in Spanish, B.A.
- Secondary Science- Biological Science Education with Concurrent Major in Biology, B.A.
- Secondary Science- Chemistry Education with Concurrent Major in Chemistry, B.A.
- Secondary Science- Earth Science Education with Concurrent Major in Environmental Systems Science, B.A.
- Secondary Science- Earth Science Education with Concurrent Major in Geology, B.A.
- Secondary Science- Physics Education with Concurrent Major in Physics, B.A.

- Secondary Social Studies Education with Concurrent Major in History, B.A.
- Secondary Social Studies Education with Concurrent Major in Political Science, B.A.

Teaching Endorsements

A teaching endorsement is not a standalone teacher certification program. Endorsements are issued by the Wyoming Professional Teaching Standards Board (PTSB) to state-licensed Elementary (K-6) and Secondary (6-12) teachers qualified to teach in specific subject areas, in addition to their initial certification(s). By state statute, the University of Wyoming's College of Education is allowed to provide institutional recommendations for add-on endorsements in Biology, Chemistry, Earth Science, and Physics to those who have completed programs leading to licensure in secondary-level Science content areas.

Graduate Programs

Master's Programs

There are three master's programs in the College of Education and two of the three have additional specialization areas. They are designed to provide advanced study for educational professionals. Consult the School of Teacher Education for program requirements and expectations.

Doctoral Programs

Doctor of Education (Ed.D)

The College of Education Ed.D. program prepares students for scholarly inquiry and professional leadership in education. The program consists of (1) applied research, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for leadership roles in education, and (3) applied professional experiences tailored to individual needs and career goals. Each student works closely with an advisor and a supervisory faculty committee to select courses, topics of research, and professional opportunities.

Preparation in the above areas combine to:

- Convey deep scholarly knowledge of education and foster its application in practice;
- Promote a broad understanding of various methods of inquiry in education and foster its application in practice settings;
- Advocate practices that demonstrate a commitment to diversity in education;
- Foster ethical and professional research and practice in education;
- Promote excellence in applied professional practice.

The degree of Doctor of Education (Ed.D.) is offered to those who wish to pursue a program of study in preparation for professional service and leadership in education. The program is designed to meet the needs of those for whom intensive research is not a practical prerequisite to professional goals. Doctoral students are expected to participate not only in organized coursework but also in other activities that will ensure breadth of outlook and technical competence.

Concentrations in the Doctor of Education are:

- Education, Ed.D., Concentration in Curriculum and Instruction
- Education, Ed.D., Concentration in Mathematics Education

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

The following requirements apply to all projects:

- Research-based (literature review)
- Scholarly, academic writing using APA style
- Primary or secondary data
- Authored by individual or small groups of students
- Uploaded to **ProQuest** for dissertations of practice or other projects in a dissertation format, and uploaded to the **Mountain Scholar Digital Collections** for projects in a non-dissertation format

Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the guidance of a faculty member. Data can be obtained from primary or secondary sources.

Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to* **Mountain Scholar Digital Collections** *or dissertations of practice or other projects in a dissertation format to* **ProQuest** *is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Please note: After submitting the required steps for the Mountain Scholar Digital Collections you will receive a confirmation email. Please forward this email to your chair and the School of Teacher Education staff.

Doctor of Philosophy in Curriculum and Instruction (Ph.D.)

The College of Education Ph.D. program prepares students for careers of scholarly inquiry and teaching in higher education. The program consists of (1) continuous research or inquiry, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for future work in research and teaching, and (3) teaching and other related experiences tailored to individual needs and career goals. Each student works closely with an advisor and a supervisory faculty committee to select courses, topics of research and inquiry, and teaching experiences.

All coursework in the Ph.D. in Curriculum and Instruction program addresses the following goals:

To convey deep scholarly knowledge of education and related fields

To promote a broad understanding of various methods of inquiry in education and develop competency in several of those methods

To advocate practices that demonstrate a commitment to diversity in education

To foster ethical and professional research and practice in education

To promote excellence as a college teacher

Effective preparation for the Ph.D. stems from collaborative research and inquiry into topics of mutual interest by students and faculty scholars/researchers. A major portion of the program consists of the individual student and selected faculty members(s) jointly engaged in research and inquiry. Successful Ph.D. applicants tend to have high aptitude for research and inquiry and express interest in general topics which the faculty of the college are actively inquiring and researching.

Concentrations in the Ph.D. in Curriculum and Instruction are:

Curriculum Studies

Literacy Education

Mathematics Education

Science Education

Program Specific Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application at the time of the admission application process or communicate with the advisor and school director there in after.

The two schools of the College of Education provide support for masters and doctoral degree programs. Faculty and staff work to deliver these programs by providing campus-based courses, courses taught on-site at different locations in Wyoming, courses taught online, and courses taught in hybrid formats.

Science & Mathematics Teaching Center

The Science and Mathematics Teaching Center (SMTC) was established in 1970 and is committed to excellence in science, mathematics and technology education. As part of the Office of Graduate Education in Academic Affairs, the SMTC, in cooperation with the Wyoming Department of Education (WDE) and the Professional Teaching Standards Board (PTSB), serves as a resource and professional development center for the state. The SMTC offers transdisciplinary graduate degree programs with multiple degree concentrations, certification options, and endorsement options. All of the programs emphasize both strong content knowledge and instructional practices. The affiliate faculty for the SMTC is comprised of include faculty from the Colleges of Agriculture and Natural Resources, Arts and Science, Education, and Engineering and Applied Science, and the Haub School of Environment and Natural Sciences.

The SMTC provides extensive off-campus professional development that serves throughout Wyoming that serves teachers, students, administrators, school districts and communities. SMTC in-service and extension courses, workshops, institutes, and conferences are designed collaboratively to improve science and mathematics teaching in Wyoming.

The School of Culture, Gender, and Social Justice

Ross Hall, Room 224

(307) 766-3122

Web site: **www.uwyo.edu/scgsj**

School Head: **Stephen Dillon**

SCGSJ Faculty

Professors:

ULRICH ADELT, M.A. University of Hamburg, Germany 2000; Ph.D. University of Iowa 2007; Associate Professor of American Studies 2015, 2009.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Professor of Law 2008, 2002.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

FRIEDA E. KNOBLOCH, American Studies; School of Culture, Gender and Social Justice; Creative Writing

TRISHA MARTINEZ, B.A. University of Wyoming 2011; M.A. University of New Mexico 2014; Ph.D. University of New Mexico 2019.

TRACEY OWENS PATTON, B.A. Colorado State University 1993; M.A. 1996; Ph.D. University of Utah 2000; Professor of Communication and Journalism 2012, 2003.

MARGARITA PIGNATARO, B.A. Florida State University; M.A. Arizona State University, Ph.D.; Visiting Assistant Professor of Latina/o Studies 2018.

Associate Professor:

LILIA SOTO, B.A. University of California - San Diego 2000; M.A. University of California - Berkeley 2003; Ph.D. 2008; Associate Professor of American Studies and Latina/o Studies 2017, 2010.

SAMANTHA L. VANDERMEADE, B.A., Appalachian State University, 2009; M.A., North Carolina State University, 2015; Ph.D., Arizona State University, 2020; Visiting Assistant Professor of Gender and Women's Studies 2020.

Assistant Professor:

JESSICA F. NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of Native American and Indigenous Studies 2019.

Associate Lecturer:

ALISON QUAGGIN HARKIN, B.A. Trinity College at the University of Toronto 1981; M.A. Athabasca University 2010; Assistant Lecturer of Gender and Women's Studies 2019.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 2002.

ROBYN LOPEZ, A.A. Central Wyoming College 2004; B.A. University of Wyoming 2007; M.A. University of Hawai'i at Mānoa; Assistant Lecturer of Native American and Indigenous Studies 2019.

Lecturers:

JASCHA HERDT, B.A. University of Wyoming; M.A. 2011.

ERIC D. JOHNSON, B.A. University of Alabama 2003; MA, University of Iowa 2009; Ph.D 2021.

CHAD D. ROBINSON, B.S. Northewestern University 1992; MA, City University of New York 2006; M.S. Mercy College 2008.

Senior Research Scientist:

ANDREA GRAHAM, American Studies; School of Culture, Gender and Social Justice

Professors Emeriti:

Cathy Connoly, Colleen Denney, John Dorst, Janice Harris, Susan McKay, Eric Sandeen

Adjunct Faculty:

(see department section following name for academic credentials)

African American and Diaspora Studies

Undergraduate Studies

The population of Black America has nearly doubled in Wyoming since the year 2000. As the population becomes more diverse it is important to provide students with a background in multicultural relations so that they are prepared for the global workforce. We intend to provide students with the necessary knowledge to prepare them to participate in an increasingly interconnected world. Therefore, African American and Diaspora Studies offers a bachelor of arts (B.A.) and an undergraduate minor in African American and Diaspora Studies.

Students may access a copy of the undergraduate major and minor check sheets at www.uwyo.edu/aads/major-minor/index.html.

At present, no program for graduate degrees in African American and Diaspora Studies is offered; however, some courses may be counted at the graduate level.

American Studies

American Studies explores American cultural experience past and present, through a wide range of approaches to American lives, places, arts, knowledges, communities, institutions, histories, and ideas. American Studies is an integrative field that comes from and adds to the context of our cultural lives in the U.S. and the U.S. in the world. American Studies frames present concerns with engagement with the past; expects us to engage people's experiences in the context of a diversity of experiences; and invites us to understand our own commitments and interests as valuable contributors to American cultural understanding. American Studies as a field depends on and adds to insights of scholars, artists, and scientists from virtually any field of expertise.

The American Studies program offers undergraduate B.A. and graduate M.A. degrees in American Studies, as well as courses of general interest to students in any degree.

Our program places special emphasis on studying American cultures through field experiences and internships: students apply academic knowledge and develop professional skills in community and non-profit organizations, historic preservation efforts and organizations, historic sites, museums and collections, among many possibilities. Every internship is developed in close consultation between the students and our Internship Coordinator, and frequently stems from a student's general idea about where or with whom they'd like to work, in Laramie or Wyoming, in other parts of the U.S., or sometimes abroad. Our program also highlights international perspectives, as well as the transnational context of American impacts and experiences, in course work and exchanges available to American Studies students.

American Studies puts people and their plans together building career goals in K-12 education, law, or business, work in community organizations and public institutions, or further graduate-level study.

Native American and Indigenous Studies

The Native American and Indigenous Studies offers an academic major at the undergraduate level and a minor at both the undergraduate and graduate level. This interdepartmental course of study examines Native North American cultural and social life, as well as Indigenous cultural and social life globally, including economic, political, and educational systems. Historical and contemporary perspectives of American Indian and global Indigenous experiences are included in this program.

Students may choose a NAIS studies minor to complement a major field of study. Related disciplines include American studies, anthropology, art, ethnic studies, geography, history, law, music, philosophy, political science, and sociology. A minor in Native American and Indigenous Studies provides excellent preparation for teachers, researchers, social workers, healthcare providers, resource managers, economic developers, and legal practitioners.

Gender and Women's Studies

The Gender and Women's Studies Program offers an interdisciplinary course of study that examines the relevance of sex, gender and sexuality in history, societies, and cultures. Students may earn a major, minor, or graduate minor in Gender and Women's Studies, or a minor or graduate minor in Queer Studies.

Program Learning Objectives

Students graduating with a degree in Gender and Women's Studies will have skills to apply in a variety of settings indicated by their ability to:

- Engage in intersectional, interdisciplinary feminist analysis.
- Analyze socio-historical and contemporary power dynamics underpinning group relations, social institutions, and systems of representation.
- Situate their analyses within various place-based contexts, including the rural, local, community, transnational, and global.

- Understand and articulate the history, strategies, and goals of interconnected movements for social justice.
- Demonstrate mastery of critical thinking skills necessary to succeed in diverse, 21st century work forces and communities.

NOTE: Gender & Women's Studies recently changed all course prefixes to GWST (from WMST). All former WMST courses will count toward Gender & Women's Studies degree programs.

Latina/o Studies

Learning Outcomes

Latina/o Studies courses emphasize perspectives that are historical and contemporary, theoretical and practical, as well as critical and aesthetic. These perspectives help to develop an understanding of oppression and resistance, at the individual, institutional, and ideological levels.

Upon completion of the University of Wyoming Latina/o Studies minor curriculum, students will have an awareness and appreciation for the Latina/o experience. Particularly as the Latina/o experience is expressed in the following concepts and principles of organic insight, relational awareness, historical perspective, power for social change, intersectionality, and aesthetics.

- *Organic Insight* - The development of a contextual framework for understanding one's own and others' experiences in relation to the Latina/o experience.
- *Relational Awareness* - The development of a theoretical framework for understanding how institutional social structures impact individuals, families, and communities, and in turn, how individuals, families, and communities impact social structures through resistance, social agency, and change.
- *Historical Perspective* - The development of a critical historical viewpoint for understanding how struggles around social, economic, and political forces have shaped the traditional and contemporary Latina/o Diaspora.
- *Power for Social Change* - The development of a critical consciousness, which is necessary for a social praxis that combats oppressive racist ideologies and social structures that perpetuate individual and institutional inequalities.
- *Intersectionality* - Gaining an awareness of the intersection of race, ethnicity, class, gender, and sexual orientation as it plays out organically, relationally, historically, and politically.
- *Latina/o Aesthetics* - The development of an appreciation and awareness of the aesthetics evident in Latina/o art, music, theatre, literature, and other artistic expressive forms and styles.

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. Two of those courses (6 hours) must include the required foundation courses, and the remaining courses (12 hours) can be selected from the other areas of studies listed below.

Wyoming Institute for Disabilities (WIND)

147 Health Sciences Building, (307) 766-2761
FAX: (307) 766-2763

Web site: www.uwyo.edu/wind
Interim Executive Director: Michelle Jarman, Ph.D.

Professor, Interim Executive Director:

MICHELLE JARMAN, B.A. University of California at Berkeley 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois at Chicago 2006; Professor of Disability Studies 2014, 2007.

Associate UCEDD Directors:

ERIC J. MOODY, B.S. Pacific Lutheran University 1998; M.A. University of Denver 2004; Ph.D. 2007; Postdoc University of Colorado School of Medicine 2011; Research Professor, Director of Research and Evaluation 2018.

CANYON HARDESTY, B.S. University of Wyoming 2004; M.S. 2007; M.S. Creighton University 2011; Associate Lecturer 2018, 2013.

Senior Lecturer:

SANDRA ROOT-ELLEDGE, B.S. University of Wyoming 2001; M.A. 2003; Senior Lecturer, 2018, 2009, 2004.

Associate Lecturer:

TERRI WOFFORD, B.S. University of Central Florida 1994; M.S. East Tennessee State University 1998; Associate Lecturer 2020.

The Wyoming Institute for Disabilities (WIND) is part of a national network of University Centers of Excellence in Developmental Disabilities Education, Research and Service (UCEDD). These centers provide a broad array of interdisciplinary academic, clinical, and research experiences of people with disabilities-particularly developmental disabilities. A wide variety of disciplines contribute to the study of disabilities.

WIND offers a Disability Studies Minor which investigates broad questions about the nature, meanings, and consequences of disability from interrelated social, historical, cultural, and political perspectives. The undergraduate minor in disability studies examines disability issues from multiple lenses, and draws specifically from social sciences, humanities, and health sciences.

Disability studies has an ethical commitment to place the interests and voices of people with disabilities at the center of our curricula and training activities. The minor balances theoretical exploration with practical application, and provides students with a vibrant understanding of disability history, cultural representation, policy concerns, and current debates. Ultimately, students in the minor will work closely with people with disabilities, and gain the skills and perspectives to participate in unique disability research and advocacy.

College of Education

College of Education

Education Building, room 6

(307) 766-3145

www.uwyo.edu/education

Jenna M. Shim, John P. "Jack" Ellbogen Interim Dean

Peter Moran: Associate Dean for Graduate Programs

Alan Buss: Associate Dean for Undergraduate Programs

Mark Perkins: Assistant Dean for Assessment, Data, and Reporting

Christi Thompson: Assistant Dean for Student Success

The College of Education prepares teachers, counselors, administrators and other service personnel for positions in public education in Wyoming, throughout the nation, and the world. The teacher education program incorporates content area courses from the various colleges on campus with experiences in educational methodology. Programs are designed to provide students with a maximum amount of experience in the classroom.

Graduates of the College of Education are prepared to deal with youth growing up in a rapidly changing world. Programs are experiential, collaborative, outcomes based, and technologically supported. Emphasis is placed on professional ethics, a commitment to lifelong learning, and respect for all individuals in our culturally diverse society.

Organization of the College

The College of Education includes undergraduate teacher education and graduate studies in education. Schools offering undergraduate and graduate programs in the college include:

- **School of Teacher Education**
- **School of Counseling, Leadership, Advocacy, and Design**

Undergraduate and graduate education are supported by several units. The College of Education Student Success Center, McWhinnie Hall room 100, coordinates activities dealing with academic advising, field experiences, and teacher licensure.

The Wellspring Counseling Clinic provides counseling services to students, staff, faculty of the university, as well as the community at-large.

The College of Education, College of Arts and Sciences, Wyoming community colleges, many Wyoming districts, the Wyoming Professional Teaching Standards Board, and the Wyoming Department of Education are part of the Wyoming School-University Partnership, which grounds collaborative efforts across the state related to K-12 preservice and in-service education.

The Laboratory School, an Albany County School District entity, serves the college, the university, the school district, and the state as an educational center for research, development, instructional advancement, and in-service education. The school enrolls students in pre-school through eighth grade.

The Learning Resource Center is a branch of the university library system. Educational materials are available to serve the needs of K-12 students, university students, university faculty and public school faculty in Wyoming.

The Learning Research Center & Clinic provides a home base for UW faculty and graduate students researching literacy across the lifespan. Connecting, supporting and expanding existing literacy programs across Wyoming. Inviting visiting scholars with literacy research expertise to collaborate and contribute.

Faculty in the College of Education

School of Counseling, Leadership, Advocacy, and Design

School Director: Courtney McKim

Professors:

COURTNEY McKIM, B.S. Boise State University 2006; Ph.D. University of Nebraska 2011; Professor of Educational Research 2023, 2020, 2011.

Associate Professors:

RICHARD CARTER, B.S. Western Carolina University 2010; M.S.E. 2012; Ph.D. University of Kansas 2016; Associate Professor of Special Education 2023, 2017.

AMANDA DeDIEGO, B.S. University of North Georgia 2009; M.S. 2012; Ph.D. University of Tennessee 2016; Associate Professor of Counselor Education 2022, 2016.

MICHAEL M. MORGAN, B.S. Brigham Young University 1993; M.S. Auburn University 1995; Ph.D. Purdue University 2003; Associate Professor of Counselor Education 2011, 2003.

LINDSEY NICHOLS, B.S. University of Connecticut 2002; M.A. University of Connecticut 2003; M.Ed. University of North Carolina at Chapel Hill 2006; Ph.D. Pennsylvania State University 2012; Associate Professor 2019.

W. REED SCULL, B.S. St. Louis University 1983; M.A. University of Nevada-Reno 1989; Ed.D. University of Arizona 1994; Associate Professor 2019.

Assistant Professors:

WILLIAM CAIN, B.A. University of Texas 1994; Ph.D. Michigan State University 2018; Assistant Professor 2018.

JONTHAN CARRIER, B.S. East Tennessee State University 1999; M.S.E. Portland State University 2002; Ph.D. University of the Cumberlands 2017; Assistant Professor of Higher Education Administration 2020.

BARBARA HICKMAN, B.A. University of Minnesota 1985; B.S. University of Minnesota 1986; M.A. Saint Mary's College 1997; Ed.D. Northern Arizona University 2017; Assistant Professor 2019.

MARGARET HUDSON, B.A. University of Wyoming 1989; M.A. 1995; M.A. 2001; Ed.D. 2010; Assistant Professor of Educational Leadership 2022.

JIHYUN LEE, B.A. Daegu University 2006; M.Ed. Korea National University 2012; M.S. University of Wisconsin-Madison 2014; Ph.D. University of Texas-Austin 2018; Assistant Professor 2019.

ROBERT MADDOX, B.S Missouri State University 2005; M.A. Southeast Missouri State University 2009; Ed.S. Southeast Missouri State University 2011; Ph.D. University of Wyoming 2015; Assistant Professor 2019.

LAY-NAH BLUE MORRIS-HOWE, B.S. University of Wyoming 2004; M.S. 2007; Ph.D. 2011; Assistant Professor of Counselor Education 2015.

MARK PERKINS, B.A. Ft. Lewis College 2001; M.A. University of Colorado-Denver 2009; Ph.D. Colorado State University 2014; Assistant Professor of Educational Research, 2020.

MIA WILLIAMS, B.S. Northern Arizona University 1995; M.Ed., 1999 Ph.D 2008 Arizona State University Assistant Professor 2020.

Associate Professional Lecturer:

TIFFANY HUNT, B.S. University of Wyoming 2001; M.S. University of Northern Colorado 2006, Ph.D. 2017; Assistant Professional Lecturer of Special Education 2014.

Professors Emeritus

Martin Agran, Mary Alice Bruce, John Cochenour, Ace Cossairt, Kay Cowie, Michael Day, Deborah McGriff, Alan Moore, Kay Persichitte, Dorothy Yocom, Suzanne Young.

School of Teacher Education

School Director: Scott Chamberlin

Professors:

STEVEN M. BIALOSTOK, B.A. University of the Pacific 1975; M.S.W. California State University - Sacramento 1986; Ph.D. University of Arizona 1999; Professor of Elementary and Early Childhood Education 2000, 2015.

CYNTHIA BROCK, B.S. Oregon State University 1981; MGd Washington State University 1985; Ph.D. Michigan State University 1997; Wyoming Excellence in Education Literacy Chair 2015.

ALAN R. BUSS, B.A. Brigham Young University 1989; M.A. 1993; Ph.D. University of Wyoming 1998; Professor of Elementary and Early Childhood Education 2019, 1997.

SCOTT A. CHAMBERLIN, B.A. Purdue University 1989 and 1993; M.Ed. University of Utah 1998; Ph.D. Purdue University 2002; Professor of Elementary and Early Childhood Education 2015, 2003.

JOHN KAMBUTU, B. A. University of Wyoming 1991; M. A. 1992; Ph.D. 1998; Professor of Educational Studies 2015, 1999.

RICHARD KITCHEN, B.A. University of Colorado-Denver 1984; M.A. University of Montana 1990; Ph.D. University of Wisconsin- Madison 1996; Professor of Secondary Education 2017. Wyoming Excellence in Education Mathematics Education Chair 2017.

PETER WILLIAM MORAN, B.A. University of Wyoming 1987; M.A. Kansas State University 1993; Ph.D. 2000; Professor of Elementary and Early Childhood Education 2017, 2001.

LYDIAH NGANGA, B.S. University of Wyoming 1998; M.S. 2000; Ph.D. 2005; Professor of Elementary and Early Childhood Education 2020, 2005.

LESLIE S. RUSH, B.S. Texas A&M-Commerce 1984; M.Ed. 1996; Ph.D. University of Georgia, 2002; Professor of Secondary Education 2014, 2002.

JENNA M. SHIM, B.A. California State University - Los Angeles 1994; M.M. Manhattan School of Music - New York 1996; M.S. State University of New York - Albany 2006; Ph.D. 2009; Professor of Educational Studies 2016, 2010.

TIMOTHY F. SLATER, B.S. Kansas State University 1989; B.S. Ed. 1989; M.S. Clemson University 1991; Ph.D. University of South Carolina 1993; Professor of Secondary Education 2008. Wyoming Excellence in Education Science Education Chair 2008.

ALLEN TRENT, B.A. Eastern Kentucky University 1986; M.S. University of Dayton 1992; Ph.D. The Ohio State University 2000; Professor of Elementary and Early Childhood Education 2012.

Associate Professors:

TAO HAN, B.A. Sungshin Women's University, Korea 1984; M.A. University of Arizona 1993; M.A. University of Nevada-Reno 2002; Ph.D. 2006; Associate Professor of Elementary and Early Childhood Education 2016, 2010.

ANA HOUSEAL, B.A. University of Iowa 1985; M.A. University of Northern Iowa 1998; Ph.D. University of Illinois 2010; Associate Professor of Elementary and Early Childhood Education 2017, 2011.

AMY ROBERTS, B.S. Indiana University 1986; M.A. Portland State University 1991; Ph.D. Indiana University 1996; Associate Professor of Elementary and Early Childhood Education 2004, 1998.

Assistant Professors:

ANNE AYDINIAN-PERRY, A.B. The University of Chicago 2003; M.Ed. University of Houston 2014; Ed.D. 2021; Assistant Professor of Secondary Social Studies Education 2023.

ALI BICER, B.S. Celal Bayar University 2006; M.S. Texas A&M University 2012; Ph.D. 2016; Assistant Professor of Elementary and Early Childhood Education 2019.

EMANUEL EIDIN, B.A. Bar-Ilan University 2008; MSc. Weizmann Institute of Science 2012; Ph.D. 2018; Assistant Professor of Secondary Science Education 2023.

TODD REYNOLDS, B.A. University of Northern Colorado 1998; M.A. 2004; Ed.S. 2008; Ph.D. University of Wyoming 2015; Assistant Professor of Secondary Education 2019.

ALISON MERCIER, B.S. North Carolina State University 2000; M.S. University of North Carolina 2020; Assistant Professor of Secondary Education 2020.

ANNA PAYNE, B.A. University of Northern Iowa 2004; M.A. University of Iowa; Ph.D. Baylor University 2023; Assistant Professor of Mathematics Education 2023.

Senior Lecturers:

NIKKI BALDWIN, B.A. University of Wyoming 1994; M.A. 2005; Senior Lecturer of Elementary and Early Childhood Education 2020, 2009.

KIMBERLY GUSTAFSON, B.A. University of Wyoming 1998; M.A. 2003; Ed.D. 2010; Senior Lecturer of Elementary and Early Childhood Education 2019, 2007.

Associate Lecturers:

JENNIFER GERINGER, B.A. University of Texas - San Antonio 1991; M.S. University of Wyoming 1997; Ph.D. 2001; Associate Lecturer of Elementary and Early Childhood Education 2022, 2015.

JASON KATZMANN, B.S. Texas Women's University 1994; M.A. Colorado College 2000; Ph.D. University of Northern Colorado 2007; Associate Lecturer of Educational Studies 2016, 2007.

ROD THOMPSON, B.A. University of Nebraska at Kearney 1991; M.A. University of Northern Iowa 1998; Associate Lecturer of Educational Studies 2019.

Assistant Lecturers:

JANET LEAR, B.S. University of Wisconsin-Madison 1990; M.A. University of California, Berkeley 1998; Ph.D. University of Denver 2017; Assistant Lecturer of Educational Studies 2019.

ROSEMARY T. MCBRIDE, B.A. Utah State University 2004; M.S. University of California, Davis 2005; Ph.D. University of Wyoming 2023; Assistant Lecturer of Agricultural Education 2023.

JOSEPH SCHROER, B.A. University of Cincinnati 2002; B.S. 2005; M.A. 2001; Ph.D. 2007; Assistant Lecturer of Educational Studies 2019.

Professors Emeritus:

Michelle Buchanan, Barbara A. Chatton, Margaret Cooney, Lydia Dambekalns, Judith Z. Ellsworth, Linda Hutchison, Jacqueline Leonard, Patricia McClurg, R. Timothy Rush

Accreditation

The College of Education, a member of the American Association of Colleges of Teacher Education, is currently accredited by the National Council for the Accreditation of Educator Preparation (CAEP) and is moving toward the Association for Advancing Quality in Educator Preparation (AAQEP) in 2023-2024. The Wyoming Professional Teaching Standards Board (PTSB) and the North Central Association of Colleges and Schools approve the college as an accredited teacher-preparing institution. The Counseling programs are fully accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

Academic Advising

Students are assigned an academic advisor who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their adviser regularly. The College of Education Student Success Center coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Further information on each program is available in:

College of Education Student Success Center
McWhinnie Hall room 100
Dept. 3374, 1000 E. University Ave.
Laramie, WY 82071

(307) 766-2230

edquest@uwyo.edu

College of Engineering and Applied Science

College of Engineering and Physical Sciences

401 Engineering Education and Research Building

Cameron Wright, Carrell Family Dean of College of Engineering and Physical Sciences
Phone: (307)766-4253 FAX: (307)766-4444
Web site: ceas.uwyo.edu

The College of Engineering and Physical Sciences (CEPS) houses departments in the fields of Physical Science, Technology, Engineering, and Mathematics. Our college is dedicated to fostering a culture of innovation, critical thinking, and problem-solving skills, which are essential for success in today's fast-paced and rapidly changing world.

Our faculty members are experts in their respective fields, and they bring a wealth of knowledge and experience to the classroom. They are passionate about teaching and are committed to helping students achieve their full potential. In addition to traditional classroom instruction, our faculty members also engage students in research and experiential

learning opportunities, which provide them with real-world experience and prepare them for the challenges of their future careers.

The CEPS offers a wide range of degree programs, from undergraduate to graduate level, that are designed to meet the needs of students with different backgrounds and career goals. We also offer a variety of support services, including tutoring, advising, and career services, to ensure that our students have the resources they need to succeed academically and professionally.

In the CEPS, we believe that learning should be an engaging and collaborative experience. We strive to create a welcoming and inclusive environment where students from diverse backgrounds can come together to learn, grow, and succeed. We are committed to preparing our students to become the next generation of leaders in their fields and to make meaningful contributions to their communities and the world at large.

Mission

The University of Wyoming's College of Engineering and Physical Sciences will provide excellent education, research, and service in chosen fields of engineering and physical sciences. The College emphasizes connectivity with society, life-long learning, and the essential problem-solving and collaborative skills needed to address the frontier challenges facing Wyoming, the nation and the world.

Accreditation

The following undergraduate programs are accredited by the Engineering Accreditation Commission of ABET: architectural engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, energy systems engineering, mechanical engineering, and petroleum engineering.

Options within different engineering programs are accredited as part of the primary major. That is, the electrical engineering-FM Long bioengineering option is accredited as an electrical engineering degree..

The Bachelor of Science in Computer Science is accredited by the Computer Accreditation Commission of ABET.

The Bachelor of Science in Construction Management is accredited by the American Council for Construction Education.

The Professional CACS Bachelor of Science in Chemistry is accredited by the American Chemistry Society-ACS Approval Program.

Programs of Study

Undergraduate Degrees

Bachelor of Arts

Chemistry

Mathematics

Physics

Statistics

Bachelor of Science

Astronomy and Astrophysics

Chemistry

Chemistry (ACS Approved)

Construction Management

Environmental Geology and Geohydrology

Geography

Geology

Mathematics

Physics

Statistics

Bachelor of Science in Architectural Engineering

Bachelor of Science in Chemical Engineering

Bachelor of Science in Civil Engineering

Bachelor of Science in Computer Engineering

Bachelor of Science in Computer Science

Bachelor of Science in Electrical Engineering

Bachelor of Science in Electrical Engineering (Francis M. Long Bioengineering Option)

Bachelor of Science in Energy Systems Engineering

Bachelor of Science in Mechanical Engineering

Bachelor of Science in Petroleum Engineering

Graduate Degrees

Master of Arts

Mathematics

Master of Science

Architectural Engineering

Atmospheric Science

Chemistry

Chemical Engineering

Civil Engineering

Computer Science

Geology

Geophysics

Electrical Engineering

Environmental Engineering

Mathematics

Mechanical Engineering

Petroleum Engineering

Physics

Statistics

Master of Arts in Teaching

Mathematics

Master of Science in Teaching

Mathematics

Physics

Doctor of Philosophy

Atmospheric Science

Chemistry

Chemical Engineering

Computer Science

Electrical Engineering

Geology

Geophysics

Mathematics

Mechanical Engineering

Petroleum Engineering

Physics

Candidates for the various master's degrees in engineering disciplines are required to do a full year's work in residence either under Plan A or Plan B.

Undergraduate Study

Students should understand that a strong background in mathematics is necessary to actively pursue engineering. Credit towards these degrees is not allowed for algebra and trigonometry.

Depending on the major, a minimum of 120 to 126 semester hours of credit is required for the bachelor's degree from the College of Engineering and Physical Sciences. All course work must be selected with prior approval. Detailed outlines of curricula are presented later under headings of the various departments of the college.

All engineering, computer science, and construction management degree candidates must meet the academic requirements of the university and must have a grade point average of 2.000 (C) or above in all engineering, computer science, and construction management courses attempted at this university.

Students may not take a course for S/U credit to satisfy any requirement for a degree from the College of Engineering and Physical Sciences, unless the course is offered for S/U credit only.

The College of Engineering and Physical Sciences adheres to prerequisite coursework being completed before moving forward to advanced coursework. If a student is found to be enrolled in a course without meeting the prerequisites, the student will be administratively dropped from the course.

All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Graduate Study

Master's and doctoral programs are listed below. Candidates for the various master's degrees in engineering are required to do a full year's study in residence either under Plan A or Plan B. Interdisciplinary programs of study and research leading to one of the below disciplinary degrees can be developed.

Only graduates with satisfactory GPAs in programs accredited by ABET are granted full admission to graduate study in engineering and computer science disciplines. In addition, graduates with satisfactory GPAs in undergraduate disciplines of meteorology, physics, mathematics, or related fields can be granted full admission to graduate studies in atmospheric science. Other engineering graduates can be admitted on a provisional basis.

Engineering Science

Program Director: David Mukai, Ph.D.
2076 Engineering Building,
(307) 766-6181
FAX: (307) 766-4444

Engineering Science offerings present the fundamental engineering concepts upon which most engineering analysis and design work is based. These core courses represent the majority of engineering offerings at the freshman and sophomore level.

Courses in engineering science have their roots in mathematics and physical science, extending knowledge toward creative application. Thus, engineering and computer science students must take their courses in calculus, chemistry, physics, and engineering science in a timely manner. Details are given in the published curriculum for each program. **A grade of C or better must be earned in all courses that are prerequisite to any required engineering science course.**

Minor

International Engineering Minor

The International Engineering minor is an 18 credit hour program open to all engineering students. Cornerstones are a study abroad experience and coursework to help students gain understanding of perspectives and viewpoints from around the world.

Study Abroad Requirement

All students earning the International Engineering Minor must complete an educational experience outside of the United States. Examples are:

- Semester or year abroad at a college or university
- UW faculty-led study abroad program
- International service-learning experience (such as Engineers Without Borders, or Alternative Spring Break)
- Internship with a company outside the United States
- Research experience outside the United States

Coursework

The coursework is 18 total credits - these credits may also count toward major degree program. The coursework is intended to help students gain understanding of perspectives and viewpoints from around the world.

Lower Division Coursework

Select 9 credits from the following courses:

- Foreign language courses (except American Sign Language)
- 1000 or 2000 level Engineering courses completed during a Study Abroad program
- 1000 or 2000 level courses in International Studies (INST)
- Any of the courses listed below
- ANTH 2200 - World Culture Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ECON 1000 - Global Economic Issues Credits: 3
- ERS 1300 - Oil: Business, Culture, and Power Credits: 3
- GEOG 1000 - World Regional Geography Credits: 3
- RELI 1000 - Introduction to Religion Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- INBU 1040 - Introduction to International Business Credits: 3

Upper Division Coursework

Select 9 credits from the following courses:

- 3000 or 4000 level Engineering courses completed during a Study Abroad program
- 3000 or 4000 level courses in International Studies (INST)
- Engineering design courses with an International focus

- Internship credits earned from an International internship

(Must be approved by International Engineering Minor Coordinator, in advance, with course syllabus or internship plan with detailed International content.)

- Undergraduate Research (for-credit) experience with an International focus

(Must be approved by International Engineering Minor Coordinator, in advance, with course syllabus or internship plan with detailed International content.)

- Any of the courses listed below
- ARE 3030 - History of Architecture Credits: 3
- ART 3030 - History of Architecture Credits: 3
- CHE 4000 - Environment, Technology and Society Credits: 3
- PETE 4000 - Environment, Technology and Society Credits: 3

Graduate

Engineering and Applied Science, MBA/MS Dual Degree

Students who hold both an MBA and an MS in Engineering set themselves apart when entering the competitive marketplace. As leaders, not only do they speak the technical lingo, they also understand the overall strategy and operational goals.

MS/MBA Dual Degree Requirements

The MS/MBA is typically a non-thesis option. An additional 21 credits in engineering, science or mathematics must be earned beyond the BS degree. At least 15 credits of graduate course work must be at the 5000-level from the respective EAS graduate program.

MBA Courses

All students pursuing a dual degree program with the College of Engineering and Applied Science and the College of Business must meet the admission requirements for both programs in order to be considered for the dual degree program. If admitted to both programs, students will complete the following requirements:

Any 9 credit hours of the following required MBA core courses can be counted towards the MS/MBA degree.

- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3
- MBAM 5305 - Strategic Management Credits: 3

Program Specific Requirements

Please review the specific program requirements for each program within the dual degree agreement.

- Business Administration, M.B.A.
- Mechanical Engineering, M.S.

- Petroleum Engineering, M.S.

Thesis Option

For a thesis option, students will only count one MBAM course from the above list and are required to complete 4 credits of ME 5960 and 2 credits for ME 5478 similar to the Plan A option.

Department of Atmospheric Science

6034 Engineering Building, (307) 766-3245
FAX: (307)766-2635
Web site: www.atmos.uwyo.edu
Department Head: Jeffrey French

Professors:

BART GEERTS, Licenciaat Physical Geography Katholieke University, Belgium 1984; Engineer in Irrigation Sciences 1986; Ph.D. University of Washington 1992; Professor of Atmospheric Science 2011, 1999.

Associate Professor:

JEFFREY R. FRENCH, B.S. South Dakota School of Mines 1992; M.S. 1994; Ph.D. University of Wyoming 1998; Associate Professor of Atmospheric Science 2021, 2015.

SHANE MURPHY, B.S. University of Colorado 2000; Ph.D. California Institute of Technology 2009; Associate Professor of Atmospheric Science 2019, 2011.

Assistant Professors:

DANA CAULTON, B.S. Indiana University 2010; Ph.D. Purdue University 2014; Assistant Professor of Atmospheric Science 2018.

DANIEL T. MCCOY, B.S. New Mexico Institute of Mining and Technology, 2010; PhD. University of Washington 2016. Assistant Professor of Atmospheric Science 2020.

STEFAN RAHIMI, B.S. University of Oklahoma 2010; M.S. 2014; PhD. University of Wyoming 2019; Assistant Professor of Atmospheric Science 2023.

MASANORI SAITO, B.S. Tohoku University, Japan 2012; M.S. 2014; Ph.D. 2017; Assistant Professor of Atmospheric Science 2020.

Adjunct Professors:

Professors Emeritus:

Terry L. Deshler, Robert D. Kelly, John D. Marwitz, Derek C. Montague, Thomas R. Parish, Alfred R. Rodi, Jefferson R. Snider, Gabor Vali

Atmospheric Science is a rapidly evolving discipline aimed at better understanding the earth's atmosphere and sits at the nexus between meteorology, physics, chemistry, biology, engineering, mathematics and computer science. The entire development of atmospheric science demonstrates how progress can result from the application of knowledge developed in the basic sciences to a complex environmental system. Concurrently, atmospheric scientists develop many observational and analytical techniques unique to the study of the atmosphere. Over the past decades, atmospheric science developed vigorously, stimulated by the availability of the latest satellite, ground-based and aircraft observations, as well as the availability of large computers for numerical simulations of atmospheric processes. At the same time, the importance of the atmosphere as a crucial resource in the welfare and survival of humankind is being recognized, as knowledge about how the atmosphere behaves is obtained.

The Department of Atmospheric Science offers graduate programs leading to the M.S. and Ph.D. degrees.

In these graduate programs, great emphasis is placed on the active research involvement of students both during the academic year and during the summer months. The low student to faculty ratio in the department ensures an atmosphere of cooperation among students, faculty and staff. Student theses and dissertations form integral parts of the department's research productivity and usually lead to articles published in the refereed literature.

Research interests in the department center around cloud and precipitation physics, cloud and mesoscale atmospheric dynamics, boundary layer processes, tropospheric aerosols and atmospheric chemistry, climate change, instrumentation and air quality. These interests are reflected in the department's academic program, which has the breadth and depth necessary to give students a background for entering into many different types of employment upon graduation.

A number of unique research tools are available in the department. Prominent among these is the King Air research aircraft which carries extensive instrumentation and computer-directed data acquisition systems. A mobile lab for sampling near surface atmospheric gases and aerosols can be deployed across the United States. Excellent laboratory facilities are available in the department's spacious quarters. These laboratories focus on cloud physics, remote sensing, aerosol, and atmospheric chemistry. Well-equipped electronic and mechanical construction and design facilities are conducive for work in instrument development. A wide range of computer facilities are available, including access to the NCAR/Wyoming Supercomputer Center(NWSC). The Department of Atmospheric Science is the lead user of the Wyoming allocation of the NWSC.

A prerequisite for admission to the graduate program is a bachelor's degree in meteorology, engineering, physics, chemistry, mathematics or a similar relevant discipline. Graduate assistantships are available by application to the department and are awarded on the basis of past record and promise for achievement.

For material containing further details on curriculum and research programs, write to the graduate admissions coordinator or visit the web site at www.uwyo.edu/atsc/.

Graduate Study

The Department of Atmospheric Science offers degree programs leading to the master of science and doctor of philosophy degrees. The department has strong research programs in the following areas: cloud physics and dynamics; tropospheric aerosols and clouds; greenhouse gases; air pollution and wildfires; boundary layer processes; remote sensing; and airborne instrumentation. The department's observational facilities are: 1) the King Air research aircraft (UWKA); 2) the Air Quality Mobile Lab and the Wyoming Air Quality Monitoring Lab; 3) the Wyoming Cloud Radar (WCR) and Wyoming Cloud Lidar (WCL) for the study of cloud structure and composition; and 4) the Keck Aerosol

Laboratory. The UWKA, WCR, and WCL are designated Lower Atmospheric Observing Facilities by the National Science Foundation (NSF). Please refer to the departmental homepage at www.atmos.uwyo.edu for programmatic updates, or contact the department directly.

Program Specific Admission Requirements

Admission based on the university minimum requirements. Admissions are competitive.

Program Specific Graduate Assistantships

Assistantships are offered for both the M.S. and Ph.D. tracks.

Graduate

Atmospheric Science, M.S.

The Master of Science degree in Atmospheric Science prepares the recipient to work in fields related to meteorology, weather and forecasting, air quality, climate change and environmental regulation.

Program Specific Degree Requirements

Approval of research plan by the graduate committee

Colloquium and oral defense of M.S. thesis

Approval of M.S. thesis by the graduate committee

A minimum of 30 hours of acceptable graduate credit hours that includes at least:

- 26 hours of acceptable graduate coursework and
- 4 hours of thesis research

21 graduate credits must be earned in the Department of Atmopheric Science

Required Courses

These courses are required for the master's program.

- ATSC 5010 - Physical Meteorology I Credits: 4
- ATSC 5011 - Physical Meteorology II Credits: 4
- ATSC 5014 - Dynamic Meteorology Credits: 4
- ATSC 5016 - Synoptic Meteorology Credits: 4
- ATSC 5018 - Ethics and Research Methods Credits: 1

Atmospheric Science, Ph.D.

The Doctorate of Philosophy degree in Atmospheric Science prepares the recipient for a career in research studying the atmosphere. Graduates may work in academia, governmental laboratories and agencies, and private industry.

Program Specific Degree Requirements

Approval of research plan by the graduate committee

Successful completion of the Preliminary Examination

Colloquium and oral defense of the Ph.D. Dissertation

Approval of the Ph.D. dissertation by the graduate committee

A minimum of at least 72 hours of acceptable graduate credit hours that includes at least:

- 42 hours of acceptable graduate coursework and
- 10 hours of thesis or dissertation research

24 graduate credits must be earned in the Department of Atmospheric Science

Department of Chemical and Biomedical Engineering

4055 Engineering Building, (307) 766-2500
Web site: www.uwyo.edu/chemical
Department Head: SAMAN ARYANA

Professors:

VLADIMIR ALVARADO, B.Sc. Universidad Central de Venezuela 1987; M.S. Institut Francais du Pétrole 2002; Ph.D. University of Minnesota 1996; Professor of Chemical Engineering 2017, 2006.

DAVID M. BAGLEY, B.S. Colorado School of Mines 1984; M.S. Cornell University 1989; Ph.D. 1993; Professor of Chemical Engineering 2011, 2005.

DAVID A. BELL, B.S. University of Washington 1976; M.S. Rice University 1979; Ph.D. Colorado State University 1992; Professor of Chemical Engineering 2019, 1993.

JOSEPH HOLLES, B.S. Iowa State University 1990; M.E. University of Virginia 1998; Ph.D. 2000; Associate Professor of Chemical Engineering 2010.

JOHN OAKEY, B.S. The Pennsylvania State University 1997; M.S. Colorado School of Mines 1999; Ph.D. 2003; Professor of Chemical Engineering 2019, 2010.

MICHAEL V. PISHKO, B.S. University of Missouri-Columbia 1986; M.S. 1987; Ph.D. University of Texas at Austin 1992; Professor of Chemical Engineering 2015.

PATRICK JOHNSON, B.S. Lehigh University 1992; M.S. University of Virginia 1994; Ph.D. Columbia University 2004; Associate Professor of Chemical Engineering 2012,2006.

Associate Professors:

SAMAN ARYANA, B.S. University of Texas at Arlington 2003; M.S. 2006; Ph.D. Stanford University 2012; Assistant Professor of Chemical Engineering 2013.

KATIE DONGMEI LI-OAKEY, B.S. Shandong University of Technology 1994; M.S. Tianjin University 1997; M.S. University of Colorado at Boulder 1999; Ph.D. 2003; Associate Professor of Chemical Engineering 2018, 2011.

Associate Professor of Practice:

JOHN TATARKO JR., B. ChE, cum laude: 2008 Cleveland State University. MS ChE: 2010 Cleveland State University. MS EE: 2013 University of Louisville. PhD ChE: 2015 University of Louisville.

Assistant Professors:

KAREN WAWROUSEK, B.S. The College of St. Rose 2001; Ph.D. California Institute of Technology 2009; Assistant Professor of Chemical Engineering 2014.

Adjunct Professors:

John Ackerman
Morris Argyle
Youqing Shen
John Schabron

Professors Emeriti:

Chang Yul Cha
H. Gordon Harris
Henry W. Haynes

Chemical Engineering is one of the most versatile of the engineering programs. It prepares students for employment in many diverse fields, such as production of pharmaceuticals, polymers and plastics, semiconductors, heavy industrial chemicals, synthetic fuels, petrochemicals and petroleum refining. Chemical engineers also work in biological engineering, environmental engineering, enhanced oil recovery, corrosion control, metallurgy and microelectronics. Undergraduate chemical engineering training has been found to be an excellent background for graduate work not only in engineering, but also in a number of other fields, including medicine, law, business, and the natural sciences.

The chemical engineering curriculum is based on a sound background in chemistry, mathematics, physics, and biology. The essentials of engineering are added to this foundation, including fluid dynamics and thermodynamics. In order to develop the individual's social consciousness and to broaden the student's educational background, an integrated program of study in the humanities and social sciences is included in the curriculum. Chemical engineering courses in multicomponent thermodynamics, transport phenomena, kinetics, process control and process design are concentrated in the junior and senior years. This program provides training for engineers to enter production, research, product and process development, process design, technical sales and engineering management positions. Training in chemical engineering equips the graduate to solve many of the problems facing society today: human health, energy shortages, synthetic fuels production, water and air pollution, toxic chemical control, and food production. Furthermore, our program prepares students interested in a career in medicine or the life sciences and is suitable for pre-medical and pre-dental students.

The department offers an 18-credit-hour block of approved technical electives. Students select an emphasis in Biological Engineering, Environmental Engineering, Materials Science and Engineering, Chemical Process Industry, Petroleum Engineering, Graduate School Preparation, and Pre-Medicine. Students can also pursue a concurrent major

in Chemistry, minors in Physics, Chemistry, Math, Computer Science, Molecular Biology and Business. See department for details.

Chemical Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduate Study

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering. The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering, the Department of Petroleum Engineering, and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

Program Specific Admission Requirements

Admission Process and Requirements

Standard Admission

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

- A GPA of 3.000 (A = 4.000), or equivalent;
- A GRE score (there is no minimum GRE score requirement)
- For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree:

A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) or an IELTS score of 6.5.

Unofficial transcripts of all prior college-level coursework, test scores and recommendations from three references must be uploaded as parts of the application.

If admission is granted, then official transcripts, GRE and TOEFL scores are required.

Applications submitted by February 1 will be given priority consideration for the fall semester.

The application will not be processed until all the necessary documents have been uploaded.

Major

Chemical Engineering, B.S.

Chemical Engineering draws upon fundamentals of chemistry, physics, biology, and math to analyze and design processes. Chemical Engineers work in a variety of fields including the energy, medicine, food, microelectronics, biotechnology, environmental, and manufacturing industries. The B.S. in Chemical Engineering is accredited by ABET and provides a path to P.E. licensure.

Accreditation

The Chemical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Chemical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **124** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math and Science

- MATH 2200 - Calculus I Credits: 4

- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1050 - Advanced General Chemistry I Credits: 4
- OR CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1060 - Advanced General Chemistry II Credits: 4
- OR CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4507 - Physical Chemistry I Credits: 3
- LIFE 1010 - General Biology Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Computing

- COSC 1010 - Computational Thinking and Programming Credits: 3

Chemical Engineering

- CHE 1005 - Introduction to Chemical Engineering Credits: 1
- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 2060 - Chemical Engineering Computing Credits: 3
- CHE 2070 - Chemical Thermodynamics Credits: 3
- CHE 2080 - Chemical Engineering Fluid Mechanics Credits: 3
- CHE 3015 - Chemical Thermodynamics II Credits: 3
- CHE 3026 - Heat Transfer Credits: 3
- CHE 3028 - Mass Transfer Credits: 3
- CHE 3040 - Unit Operations Laboratory I Credits: 3
- CHE 4050 - Unit Operations Laboratory II Credits: 3
- CHE 4060 - Reaction Engineering Credits: 3
- CHE 4070 - Process Simulation & Economics Credits: 4
- CHE 4080 - Senior Design Credits: 4
- CHE 4090 - Process Dynamics and Control Credits: 3

Approved Technical Electives - 18 Credits

- See Advisor for a current list of approved technical electives.
- A minimum of 3 credits of the Technical electives must be Chemical Engineering coursework.

Additional Requirements/Program Information

- 48 Upper Division credits are required. This is fulfilled by required courses and approved technical electives.
- Chemical Engineering degree candidates must meet the academic requirements of the college and, in addition, must have a GPA of 2.000 in Chemical Engineering courses attempted at UW that are applied toward graduation for the B.S. degree from the department.
- Students must achieve a C or better in all chemical engineering courses serving as a prerequisite for another chemical engineering course.

- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Transfer Work

- All Wyoming Community College equivalent courses will be evaluated for acceptance into the CHE program.
- For upper-division coursework, no more than two CHE 3000+ courses can be transferred and applied to the CHE degree.
- CHE4070 and CHE4080 cannot be transferred to UW.
- All CHE transfer courses must be completed with a grade of C or better.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Minor

Biomedical Engineering Minor

Biomedical Engineering is an interdisciplinary field that combines principles of biology and medicine with engineering design to produce healthcare innovations. Biomedical engineers contribute to medical technologies in a variety of areas including diagnostics, therapeutics, imaging, bioinformatics, and rehabilitation.

Learning Outcomes:

A student who has completed the Biomedical Engineering Minor will have:

1. Experience and proficiency in applying principles of engineering, biology, human physiology, chemistry, calculus-based physics, differential equations, and statistics;

2. Experience and proficiency in solving biomedical engineering problems, including those associated with the interaction between living and nonliving systems;

3. Experience and proficiency in analyzing, modeling, designing, and realizing medical devices, systems, components, or processes;

4. Experience and proficiency in making measurements on and interpreting data from living systems;

5. An ability to identify, formulate, and solve complex biomedical engineering problems by applying principles of engineering, science, and mathematics.

6. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

7. An ability to communicate effectively with a range of audiences.

8. An ability to recognize ethical and professional responsibilities in medical and engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

9. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

10. An ability to design and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

11. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Biomedical Engineering is an interdisciplinary field that combines principles of biology and medicine with engineering design to produce healthcare innovations. Biomedical engineers contribute to medical technologies in a variety of areas including diagnostics, therapeutics, imaging, bioinformatics, and rehabilitation. Accordingly, biomedical engineers typically possess a broad biology background and strong engineering design and problem-solving principles. The Biomedical Engineering minor will prepare students studying engineering or the life sciences for careers in industries that develop technologies to advance medicine.

The following curriculum is accessible to students from any major degree program in the College of Engineering and Physical Science (CEPS), as well as students from other programs on campus. Tracks covering different the different engineering disciplines that comprise biomedical engineering are provided below. Students are encouraged to select a track that most closely aligns with their interests and preparation. A specialized, more comprehensive program of study is available for students with a particular interest in medical school preparation.

Coursework:

The minimum required coursework consists of 18 credits. Students must complete one of the tracks provided below, including all required courses listed within each track. Additional coursework may be chosen from the list of Approved Elective Coursework below. Approval by the Minor Coordinator is required for any substitutions or electives not appearing in the approved list below.

Chemical Engineering

Chemical Engineering draws upon the fundamentals of chemistry, physics, and biology to analyze and design processes. Chemical Engineers work in a variety of biomedical disciplines including pharmaceutical production, biomedical devices, tissue engineering, and medical sensing. The following coursework covers biological fundamentals and materials with a focus on process and device design.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4100 - Biochemical Engineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3

  + 6 Credits of approved coursework

Electrical Engineering

This track offers opportunities for those interested in applying electrical engineering to problems of environmental science, wildlife studies, biology, and medicine. Application areas include the use of telemetry for wildlife management, environmental monitoring, design and development of biological and medical instrumentation and clinical engineering.

- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- KIN 2040 - Human Anatomy Credits: 3

Mechanical Engineering

With a focus upon biomaterials and biomechanics, this track combines biology and physiology with mechanical engineering. This coursework helps students apply mechanical engineering principles to biological challenges including prosthetics, robotic surgery instruments, and medical device design.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- ME 4250 - Biomechanics of Movement Credits: 3

  + 3 Credits of approved coursework

Physical and Life Sciences

This track is encouraged for students **not** majoring in an engineering discipline or those who may be preparing for medical school*. Relying heavily upon advanced coursework from the life sciences, this track will provide students with an engineering perspective and design mindset. Substitutions may be made to customize the track to students' interests and preparation, but must be approved by the Minor Coordinator.

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4

*For students who are interested in medical school, please contact advisors at the College of Health Sciences Prehealth Advising Office (https://www.uwyo.edu/preprof/index.html).

Approved ElectiveCoursework:

The following approved courses may be counted in fulfillment of additional technical elective requirements within the discipline-specific track, but may not be substituted for required courses.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4100 - Biochemical Engineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- CHE 3900 - Undergraduate Research Credits: 1-6 (in an appropriate laboratory)
- CHE 4220 - Metabolic and Protein Engineering Credits: 3
- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3
- EE 4800 - Problems in _____ Credits: 1-6 Problems in Bioengineering
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4400 - Immunology Credits: 4
- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5

  NOTE
  CHE 3100 fulfills the LIFE 2021 & 3050 pre-requisite requirements for CHE 4100, 4160, and 4165. Alternatively, students may take the following in lieu of CHE 3100 as a pre-requisite: MICR 2021 Microbiology (4) and MOLB 3610 Principles of Biochemistry (4).

Process Control Minor

Process control engineers optimize processes and implement quality control systems in the manufacturing industry. They design, test, and oversee the implementation of new processes. Process control engineers are often employed at manufacturing plants that process chemicals, metals, and other materials.

Required Courses

- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 2090 - Practical Fundamentals of Process Control Credits: 2
- CHE 3090 - Applying Simulation to Dynamic Processes Credits: 1

- CHE 4092 - Controlling Process Systems Credits: 3
- CHE 4090 - Process Dynamics and Control Credits: 3

  or
- EE 4620 - Automatic Control Systems Credits: 3

  or
- EE 4621 - Honors Automatic Control Systems Credits: 3

Approved Elective Courses

At least 6 hours of approved elective courses are required for this minor.

- ES 2210 - Electric Circuit Analysis Credits: 3
- EE 2220 - Circuits and Signals Credits: 4
- EE 3220 - Signals And Systems Credits: 3
- ME 4020 - Design of Mechanical/Electronic Systems Credits: 3
- COSC 4450 - Computer Graphics Credits: 3
- COSC 4765 - Computer Security Credits: 3
- CHE 4972 - Internship in Process Control Engineering Credits: 1-6

Learning Outcomes

An engineer who has completed the Process Control and Instrumentation Minor will be able to examine an engineering process that requires automated control and provide a practical control design by:

- Identifying key performance and technical features of the process
- Specifying process variables to control to achieve desired process outcomes
- Identifying the appropriate manipulated variables to achieve control
- Selecting appropriate measurement instrumentation for process variables
- Specifying needed final control elements to effect change of manipulated variables
- Selecting an appropriate controller and control algorithm that achieves stable control
- Testing and tuning the control design in simulation
- Evaluating the control design against performance and economic objectives
- Understand key nomenclature and terms in process control
- Understand the difference between analog and digital components

Graduate

Chemical Engineering, M.S.

Graduate Study Guidelines

All incoming M.S. Plan A and M.S. Plan B students must have an adviser. The student is responsible for contacting faculty members in order to find an adviser.

All Chemical Engineering graduate students must take the following Chemical Engineering Core courses:

- CHE 5020 - Thermodynamics Credits: 3
- CHE 5010 - Transport Phenomena Credits: 3
- CHE 5030 - Reaction Kinetics Credits: 3

- CHE 5355 - Mathematical Methods in Chemical Engineering Credits: 3

Credit Hours

- Total (from above) Credits: 12
- CHE 5960 - Thesis Research Credits: 4
- Electives Credits: 14
- Total Credits: 30

Plan B (Non-Thesis)

The coursework requirements are the same as the M.S. Plan A requirements except that Thesis Research (CHE 5960) is not required. Plan B students take an additional 4 hours of elective course credits (a total of 30 hours required).

M.S. Plan B students must write a paper on a topic assigned by the adviser and present their work the their graduate committee. This paper must be submitted to the student's graduate committee for approval at least one week prior to the oral presentation.

M.S. Seminar Requirements

All chemical engineering graduate students must enroll in CHE 5890, Chemical Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Registered off-campus graduate students can be exempt from having to enroll in CHE 5890.

M.S. Thesis

All M.S. Plan A students must orally defend their thesis at a public final examination. At least two weeks before the examination, the student must provide each member of the graduate committee with a copy of the written M.S. thesis and provide the department an announcement of their defense for advertisement by bulletin board, e-mail, or other means. The results of the examination are reported on the Report of Final Examination form. Graduate committee members may request changes in the thesis, and they may postpone signing the form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Graduate Student Resources web site. This copy will be rejected if the format standards specified by the Thesis and Dissertation Format Guide are not met. This guide allows for a publication-ready format. If required by the department and/or committee, additional printed copies should be delivered to the University Store for binding. Students should consult with the adviser to determine if the adviser wants a copy of the thesis, dis¬sertation, or other research documentation.

Chemical Engineering, Ph.D.

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering.The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

The mission of the graduate program in Chemical Engineering is to prepare students to be leaders in industry, government, or academia.

A master's degree is not required to enter a Ph.D. program.

Graduate Core Classes

All incoming Ph.D students must have an adviser. The student is responsible for contacting faculty members in order to find an adviser.

All Chemical Engineering graduate students must take the following Chemical Engineering Core courses:

- CHE 5020 - Thermodynamics Credits: 3
- CHE 5010 - Transport Phenomena Credits: 3
- CHE 5030 - Reaction Kinetics Credits: 3
- CHE 5355 - Mathematical Methods in Chemical Engineering Credits: 3

Doctoral Program

Credit Hours

- CHE 5980 - Dissertation Research Credits: 30
- Electives - Credits: 30 (CHE 5980 will count toward your electives)
- Total Credits: 72

Ph.D. Seminar Requirements

All chemical engineering graduate students must enroll in CHE 5890, Chemical Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Registered off-campus graduate students can be exempt from having to enroll in CHE 5890.

Ph.D. Preliminary Examination

All Ph.D. students must pass a preliminary examination no later than the end of the student's fifth full semester in the graduate program and a least 15 weeks prior to the dissertation defense. Prior to attempting the Ph.D. preliminary examination, students must have completed all required core classes no later than the end of their fourth semester in the graduate program. Students must file a program of study prior to attempting the preliminary examination.

The goal of the preliminary exam is for the student to demonstrate his or her research progress to-date and present the research proposition that will be investigated and lead to his or her final dissertation. The preliminary exam consists of three components: a written document provided to each member of the student's graduate committee at least one week prior to the oral presentation; a public oral presentation; and a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. A form sent by the student's adviser to the Office of the Registrar reports the results of the examination.

Ph.D. Final Examination (Dissertation Defense)

All Ph.D. students must orally defend their thesis or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public thesis defense in oral presentation format. At least two weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis of Ph.D. dissertation and provide the department an announcement of their defense for advertisement by bulletin board, e-mail, or other means. The results of the examination are reported on the Report of Final Examination form. Graduate committee members may request changes in the thesis or dissertation, and they may postpone signing the form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Graduate Student Resources web site. This copy will be rejected if the format standards specified by the Thesis and Dissertation Format Guide are not met. This guide allows for a publication-ready format. If required by the department and/or committee, additional printed copies should be delivered to the University Store for binding. Students should consult with the adviser to determine if the adviser wants a copy of the thesis, dissertation, or other research documentation.

Environmental Engineering, M.S.

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering.

Core Courses (9 Hours)

All Environmental Engineering M.S. students must take the following Core courses (9 hrs):

- ENVE 5425 - Environmental Engineering Microbiology
- ENVE 5430 - Environmental Engineering Chemistry Credits: 3
- CE 5435 - Environmental Transport Processes Credits: 3

Recommended Courses (3 Hours)

Students should also take at least one of the following Recommended courses (3 hrs):

- ENVE 5410 - Advanced Biological Wastewater Treatment Credits: 3
- ENVE 5450 - Advanced Physical Chemical Treatment Credits: 3

Approved Elective Coursework

Plan A (Thesis) students complete another 14 hours of Approved Elective coursework, at least 4 hours of ENVE 5960 - Thesis Research, and write and defend their thesis. Plan B (Project) students complete another 18 hours of Approved Elective coursework and write and present their project.

Total Required Credit Hours: 30 (Minimum)

QuickStart Program

Chemical Engineering Quick Start, B.S/.M.S.

The BS/MS Quick Start program in Chemical Engineering (CHE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Chemical Engineering.

Additional Information

Students may apply for admission to the Quick Start program during the second semester of their junior year or during their senior year. This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better-planned use of time should result in reduction of the time required for obtaining the Master of Science in Chemical Engineering (M.S. CHE) degree. Students who enter the Quick Start program must accept the primary respon¬sibility for actively planning their programs of study to assure timely completion of their coursework and research programs.

The Quick Start program contains two essential elements:

Qualified students may receive provisional admission to the Chemical Engineering graduate program prior to completing the normal application process. This provisional admission will permit students to make their long-term educational plans earlier in their studies, thus providing enhanced opportunities for course selection and involvement in research.

Students in the program may apply up to 6 credit hours of 5000-level courses toward both the B.S. and M.S. degree programs. By completing successfully up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level coursework as undergraduates, easing their transition to the Chemical Engineering graduate program.

For additional information and an application form, please contact the CHE graduate program coordinator at che-info@uwyo.edu or stop by 4055 Engineering Building.

Department of Chemistry

204 Physical Sciences Building,
(307) 766-4363
FAX: (307) 766-2807
Web site: www.uwyo.edu/chemistry
Department Head: Brian Leonard

Professors:

DAVID T. ANDERSON, B.S. George Washington University 1987; Ph.D. Dartmouth College 1993; Professor of Chemistry 2012, 2000.

FRANCO BASILE, B.S. University of Wisconsin-Eau Claire 1986; Ph.D. Purdue University 1992; Professor of Chemistry 2018, 2003.

DEBASHIS DUTTA, B. Tech Indian Institute of Technology 1998; Ph.D. University of Notre Dame 2003; Professor of Chemistry 2017, 2006.

JOHN O. HOBERG, B.A. Jamestown College 1984; Ph.D. Montana State University 1990; Professor of Chemistry 2020, 2004.

TERESA LEHMANN DELLA VOLPE, B.S. Universidad Central de Venezuela 1987; Ph.D. University of Minnesota 1997; Professor of Chemistry 2021, 2008.

BRIAN M. LEONARD, B.S. University of Nebraska at Kearney 2003; Ph.D. Texas A&M 2008; Professor of Chemistry 2022, 2016, 2010.

J**ING ZHOU,** B.S. Xiamen University 1997; Ph.D. University of South Carolina 2004; Professor of Chemistry 2021, 2007.

Associate Professors:

CALEB M. HILL, B.S. Jacksonville State University 2009; Ph.D. University of Alabama 2014; Assistant Professor of Chemistry 2016, Associate Professor of Chemistry 2022.

ELLIOTT HULLEY, B.S. Ursinus College 2005; Ph.D. Cornell University 2011; Associate Professor of Chemistry 2020, 2014.

Assistant Professors:

XUESONG LI, B.S. China University of Geosciences, Beijing 2008; Ph.D. University of Bordeaux 2016; Ph.D. University of Liege 2016; Assistant Professor of Chemistry 2023.

LAURA RITA DE SOUSA OLIVEIRA, B.S. New Mexico Institute of Mining and Technology 2010; Ph.D. University of California, Riverside 2017; Assistant Professor of Chemistry 2020.

Research Faculty:

NAVAMONEY ARULSAMY, B.Sc. Madurai-Kamaraj University, India 1982; M.Sc. 1986; Ph.D. University of Hyderabad, India 1991; Senior Research Scientist 2013, 2005.

ALEXANDER GORONCY, B.S. University of Bremen; Ph.D. University of South Carolina; Research Scientist 2015.

Adjunct Professors:

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Adjunct Professor of Chemistry 2001.

KRISTIN DI BONA, Ph.D. The University of Alabama 2014; Adjunct Professor of Chemistry 2022

MAOHONG FAN, Ph.D. Osaka University 2003; Professor in SER and CEAS; Adjunct Professor of Chemistry 2009.

ROBIN D. ROGERS, Ph.D. University of Alabama 1982, University of Alabama, President/ Owner/ Founder, 525 Solutions, Inc. 2017, Professor Emeritus 2021, University of Alabama, Adjunct Professor of Chemistry 2022.

Associate Lecturer:

GINKA S. KUBELKA, M.S. University of Wuerzburg, Germany 2010; Ph.D. University of Wyoming 2015. Associate Lecturer of Chemistry 2022, 2016.

Assistant Lecturers:

INDRAJIT BANDY, BSc. University of Calcutta, India 2011; MSc. University of Calcutta, India 2013; Ph.D. Arizona State University, USA 2019; Assistant Lecturer of Chemistry 2023.

KUI CHEN, B.Sc. Xiamen University 1997; Ph.D. University of South Carolina 2004; Assistant Lecturer of Chemistry 2019.

Professors Emeritus:

Vernon Archer, Keith T. Carron, Robert Corcoran, Clyde Edmiston, Anthony Guzzo, Suzanne Harris, Robert Hurtubise, David Jaeger, E.G. Meyer, Bruce A. Parkinson, Dean M. Roddick, Edward Clennan.

Senior Lecturer Emeritus:

Patricia A. Goodson

Chemistry is one of the fundamental physical sciences dealing with the structure and properties of matter, along with changes that matter undergoes. Chemistry's scope encompasses all substances, living and non-living. Its study and practice include (1) the theoretical and experimental aspects of chemical bonding and structure using computational, spectroscopic, and diffraction techniques; (2) the laboratory synthesis from simple starting materials of desirable compounds in the inorganic, organic and biological classes; and (3) the total analysis of complex mixtures using modern spectroscopic and electrochemical methods. Since we live in a material world, applications of chemical knowledge influence most areas of human endeavor: scientific, economic, political and social. Many of the advances in the areas of new materials, medicines, biotechnology, food production, new energy sources and semiconductor technology associated with the "computer revolution" are based on chemistry and chemical principles. Some understanding of these chemical principles should be part of every educated person's knowledge.

Because of the broad scope of this discipline, the Department of Chemistry offers a variety of courses and programs. These programs meet the needs of students planning professional careers in chemistry and those wishing to major in chemistry for other objectives. In particular, chemistry is a traditional pre-professional major for students interested in medicine and dentistry. Specific courses are offered to serve other major areas and as part of University Studies and A&S core requirements.

Students who have taken an AP examination and have received a score of 4 or 5 may receive credit for CHEM 1020 and CHEM 1030.

Undergraduate Minor

A minor is offered in the Department of Chemistry. Further information may be found at the web site www.uwyo.edu/chemistry.

Graduate Study

The Department of Chemistry offers programs leading to the degrees of master of science and doctor of philosophy chemistry. The master's degree is offered mainly under Plan A with Plan B reserved for special circumstances.

The department also participates in the preparation of students for the degrees of master of science in natural science and master of science in teaching (M.S.T.), which are designed to improve the competence of those engaged in science teaching.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Chemistry requires that a student have taken the following undergraduate courses: one year of general chemistry; one semester/quarter of quantitative analysis; one year of organic chemistry plus laboratory; one year of physical chemistry plus laboratory; one year of physics; and mathematics through multivariable calculus. As appropriate, one or more of these course requirements may be waived at the discretion of the department.

The University of Wyoming Chemistry Department is accredited by the American Chemical Society (ACS).

Major

Chemistry, B.A.

The Bachelor of Arts program (B.A.) is designed to provide a solid foundation in chemistry for those pursuing careers that would benefit from chemical expertise.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Plan 1

(33 hours of chemistry)

Course Requirements

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- **Additional USP requirements** Credits: 14
- **Electives** Credits: 57

Basic Chemistry: 27 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

  OR
- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

  OR
- CHEM 4507 - Physical Chemistry I Credits: 3

- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3

Additional Upper-Level Chemistry: 6 Hours

(Including one of the following)

- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

  OR
- PHYS 1110 - General Physics I Credits: 4 **AND**
- PHYS 1120 - General Physics II Credits: 4

  OR
- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Minimum Total: 120 Hours

Additional Requirements

The Plan 1 B.S. degree requires at least 38 hours of chemistry courses.

The Plan 2 B.S. requires 46 hours of chemistry courses.

Since the chemistry required in the first two years of all programs is the same, students interested in pursuing a chemistry major can elect any program initially. Discussions with a departmental adviser will allow students to choose the most appropriate major for their career objectives. In general, students planning graduate work in chemistry should elect one of the B.S. programs.

The Bachelor of Arts program (B.A.) has a more liberal content with additional electives. It would support careers in business, law and advanced study in areas needing a strong chemistry background such as toxicology or forensic science

The B.A is designed to provide a solid foundation in chemistry for those pursuing careers that would benefit from chemical expertise.

The B.A. is suitable for students in the College of Education who wish to obtain a degree, and may also be appropriate for some premedical tracks.

The Plan 2 (CACS) program is designed to meet standards set by the American Chemical Society (ACS). A student who completes the Plan 2 B.S. program will be certified by the Department of Chemistry to the ACS as having met the specific ACS requirements for undergraduate professional training in chemistry.

Students must obtain a grade of C- or higher in each of the chemistry, physics or math courses specifically required for their degree.

The department offers both, B.A. and B.S. degree programs. The B.A. degree includes a minimum of 33 hours of chemistry.

Chemistry, B.S.

The Bachelor of Science program (B.S.) provides an intensive study of chemistry appropriate for those pursuing careers in the chemical sciences.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Plan 1

(42 hours of chemistry)

Course Requirements

- CHEM 4930 - Undergraduate Research Credits: 1-3 (Students need to complete 2 credit hours of CHEM 4930 total)
- Additional upper-division chemistry credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- **Additional USP requirements** Credits: 14
- **Electives** Credits: 44

Basic Chemistry: 37 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

  OR
- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4000 - Career Skills Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 4508 - Physical Chemistry II Credits: 3
- CHEM 4525 - Physical Chemistry Lab I Credits: 1
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

  OR
- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Minimum Total: 120 Hours

Plan 2 (CACS)

(46 hours of chemistry)

Course Requirements

- CHEM 4930 - Undergraduate Research Credits: 1-3 (Students need to complete 3 credit hours of CHEM 4930 total)
- Additional upper-division chemistry Credits: 2-3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- **Additional USP requirements** Credits: 21
- **Electives** Credits: 4-6

Basic Chemistry: 45-46 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

  OR
- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4400 - Biological Chemistry Credits: 3

  OR
- MOLB 3610 - Principles of Biochemistry Credits: 4

  OR
- MOLB 4600 - Advanced Biochemistry Credits: 3
- CHEM 4000 - Career Skills Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 4508 - Physical Chemistry II Credits: 3
- CHEM 4525 - Physical Chemistry Lab I Credits: 1
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

  OR
- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Computer Science: 3 Hours

- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 4515 - Applied Mathematics in Physical Chemistry I Credits: 3

- COSC 1010 - Computational Thinking and Programming Credits: 3

Program Supporting Courses: 18 Hours

A group of courses selected to further the career objectives of the individual student. These are chosen after consultation with the departmental adviser and must subsequently be approved by the departmental Undergraduate Studies Committee. A grade of C- or higher is required for all program supporting courses.

Minimum Total: 120 Hours

Additional Requirements

The BS in chemistry requires a minimum of 42 hours of chemistry.

See the "Prerequisite and MPE Cut Score Reference Chart" on the Math Placement website for the most up-to-date math placement equivalencies: http://www.uwyo.edu/mathstats/math-placement/.

Students taking CHEM 4010 or MICR 4321 as their C3 are not required to take CHEM 4000.

Minor

Chemistry Minor

The Minor in Chemistry enables students with majors in disciplines outside of chemistry to augment their education with knowledge of underpinning chemical principles.

Required Courses:

- CHEM 1020 - General Chemistry I Credits: 4
  or CHEM 1050 Advanced General Chemistry I
- CHEM 1030 - General Chemistry II Credits: 4
  or CHEM 1060 Advanced General Chemistry II
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4

Elective Course: Choose one of the following (3-4 hrs)*

- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3020 - Environmental Chemistry Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- MOLB 4400 - Immunology Credits: 4
- CHEM 4507 - Physical Chemistry I Credits: 3
- MOLB 4600 - Advanced Biochemistry Credits: 3

Additional Requirements

Chemistry is the study of composition, properties of matter, and structures in chemistry. As a Chemistry minor, you will gain knowledge about mathematics, physics, and other types of life sciences.

Note: If you are in the College of Arts and Sciences, at least 12 credits in a minor must be in courses NOT being counted towards your major. If you are in a different College, this rule does not currently apply. A grade of C or better is required in all courses.

Student will be assigned an advisor in the Chemistry department to consult regarding their minor. Appropriate substitutes for the elected course may be approved by a student's Chemistry advisor, and the head of the Department of Chemistry.

Graduate

Chemistry, M.S.

The MS degree introduces students to critical thinking necessary to work independently in industrial settings & prepares you for a professional career. Provides classroom training, presentation & teaching skills along with professional development

Plan A (Thesis)

In addition to fulfilling the minimum university requirements, a student must take the Career Skills course (CHEM 5000) plus one 3 hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding special topics and research courses. These courses must be graduate courses, 5000 and above.

One departmental seminar is required to be presented on the thesis research.

Take 9 Credits

A student may also take 9 credits of any combination of

- CHEM 5190 - Research in Inorganic Chemistry Credits: 1-3
- CHEM 5290 - Research in Analytical Chemistry Credits: 1-3
- CHEM 5390 - Research in Organic Chemistry Credits: 1-3
- CHEM 5590 - Research in Physical Chemistry Credits: 1-3
- CHEM 5790 - Research in Biological Chemistry Credits: 1-3

Additional Requirements

The M.S. committee consists of the student's major professor and two other members. The M.S. Committee is responsible for advising the candidate concerning course work and research. The M.S. Committee is also responsible for the final examination of the candidate. In addition to a thesis, the M.S. candidate is also required to present a departmental seminar on the thesis topic.

A student must take the Career Skills course (CHEM 5000) plus one three-hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding

special topics and research courses. These courses must be graduate courses, 5000 and above. A student may also take nine credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790. One departmental seminar is required on the thesis research.

A student in a M.S. program who is in good standing with a grade point average equal to a B or greater may petition to transfer into the Ph.D. program upon approval of his/her M.S. committee and recommendation of the Graduate Committee.

Chemistry, Ph.D.

Our Ph.D. program is a research degree in advanced chemistry that prepares our students for careers in academia or as leaders in industry. A Master's degree is not required; students may enter directly into the Ph.D. program.

Students May Also Take

A student may also take 12 credits of any combination of

- CHEM 5190 - Research in Inorganic Chemistry Credits: 1-3
- CHEM 5290 - Research in Analytical Chemistry Credits: 1-3
- CHEM 5390 - Research in Organic Chemistry Credits: 1-3
- CHEM 5590 - Research in Physical Chemistry Credits: 1-3
- CHEM 5790 - Research in Biological Chemistry Credits: 1-3

Area Selected as a Major

In the area selected as a major, the student will take the following as a minimum:

Analytical

- CHEM 5250 - Advanced Chemical Instrumentation Credits: 3
- plus 9 hours of graduate level analytical courses

Inorganic

- 12 hours of graduate level inorganic courses

Organic

- CHEM 5320 - Spectroscopic Methods of Structure Determination Credits: 3
- CHEM 5330 - Advanced Organic Chemistry Credits: 3
- CHEM 5340 - Synthetic Methods in Organic Chemistry Credits: 3
- CHEM 5350

Physical

- any three graduate level physical chemistry courses

Additional Requirements

In addition to fulfilling the minimum university requirements, a student must take the Career Skills course (CHEM 5000) plus one 3 hour graduate course (5000 and above) in each of the four areas (inorganic, analytical, organic, and physical), excluding special topics, tool courses CHEM 5130, CHEM 5320, CHEM 5760, and research courses.

A student may also take 12 credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790.

Students must obtain satisfactory performance on a series of written major field cumulative examinations, including special topics.

Students must obtain satisfactory performance on a preliminary examination, part written and part oral.

Students must present a seminar based on the dissertation research. Students must also obtain one additional credit of 5000 by presenting a divisional or departmental seminar or an oral presentation at a regional or national research meeting. In addition, students must make one presentation at the annual University of Wyoming Graduate School Symposium.

Department of Civil and Architectural Engineering and Construction Management

3074 Engineering Building, (307) 766-2390
FAX: (307) 766-2221
Web site: www.uwyo.edu/civil/
Department Head: Anthony S. Denzer

Professors:

MICHAEL G. BARKER, B.S. Purdue University 1983; M.S. 1987; Ph.D. University of Minnesota 1990; Professor of Civil Engineering 2003.

JONATHAN A. BRANT, B.S. Virginia Military Institute 1998; M.S. University of Nevada 2000; Ph.D. 2003; Professor of Civil Engineering 2020, 2008.

ANTHONY S. DENZER, B.A. University of California, Berkeley 1991; M.Arch. University of Kansas 1998; Ph.D. University of California, Los Angeles 2005; Professor of Architectural Engineering, 2021, 2005.

FRANCOIS JACOBS, B.S. California Baptist University 1995; M.B.A. University of Denver 2005; Ph.D. Colorado State University 2010; Associate Professor of Construction Management, 2019.

KHALED KSAIBATI, B.S. Wayne State University 1984; M.S. Purdue University 1986; Ph.D. Purdue University 1990; Professor of Civil Engineering 2001; Director of the Wyoming Technology Transfer Center 2003, 1990.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

JENNIFER E. TANNER, B.A. Eastern College 1994; B.S. Oklahoma State University 1995; M.S. University of Costa Rica 1998; Ph.D. University of Texas 2003; Associate Professor of Civil Engineering 2009, 2003.

MICHAEL A. URYNOWICZ, B.S. Michigan State University 1990; M.S. University of Wisconsin 1995; M.S. Colorado School of Mines 1998; Ph.D. 2000; Professor of Civil Engineering 2014, 2002.

HAIBO ZHAI, B.S. Xi'an University of Technology 1999; M.S.Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

JIANTING "JULIAN" ZHU, B.S. Zhejiang University 1983; M.S. Peking University 1985; Ph.D. Dalhousie University 1996; Professor of Civil Engineering 2019, 2013.

Associate Professors:

DAVID J. MUKAI, B.S. University of Hawaii 1983; M.S. 1985; Ph.D. University of Washington 1991; Associate Professor of Civil Engineering 2005, 2001.

NORIAKI OHARA, B.A. Chuo University 1997; M.A. 1999; Ph.D. University of California, Davis 2003; Associate Professor of Civil Engineering 2019, 2012.

LIPING WANG, B.S. Xi'an University of Architecture and Technology 2010; M.S. 2003; Ph.D. National University of Singapore 2007; Associate Professor of Architectural Engineering, 2020, 2013.

CHENGYI "CHARLIE" ZHANG, B.S. Harbin University of Commerce 2007; M.S. China University of Mining and Technology, Beijing 2009; Ph.D. Illinois Institute of Technology 2013; Assistant Professor of Construction Management, 2020.

MILAN ZLATKOVIC, B.S. University of Belgrade 2005; M.S. University of Utah 2009; Ph.D. 2015; Assistant Professor of Civil Engineering, 2016.

Assistant Professors:

AHMED ABDELATY AHMED, B.S. Cairo University 2001; M.S. 2014; Ph.D. Iowa State University, 2017; Assistant Professor of Construction Management, 2020.

AYSEGUL DEMIR, B.S. Dokuz Eylul University 2013; M.S. Istanbul Technical University 2016; Ph.D The University of Texas at Austin 2022.

SONG, YU, B.Eng., Traffic & Transportation, Beijing Jiaotong University 2010; M.Sc., Transport & Planning, Cardiff University 2012; M.S., Civil & Environmental Engineering, University of Utah 2016, Ph.D., Civil & Environmental Engineering, University of Wisconsin-Madison 2021.

RYAN WEBB W., B.S. University of New Mexico, Albuquerque, NM 2010; M.S. University of New Mexico, Albuquerque, NM 2012; Ph.D. Colorado State University, Fort Collins, CO 2016; Assistant Professor of Construction Management, 2021.

Assistant Instructional Professors:

SHAWN C. GRIFFITHS, B.S. Utah State University 2009; M.S. University of Arkansas 2011; Ph.D. University of Texas, Austin 2015; Assistant Professor of Civil Engineering 2015.

Academic Professionals:

DHAWAL JAIN, B.S. K.R.V.I.A Mumbai India 2014; M.S. Virginia Tech 2018.

SHELLEY MACY, B.S. University of Wyoming 2002; M.S. University of Wyoming, 2013; Assistant Lecturer, 2021.

Adjunct Faculty:

Song Jin, Jeffrey Keely, Mark Kilgore, Robert Loane, Alan Moore, Evan O'Toole, Chris Schabron, Dennis Mouland, Nathan Bergh. Lindsay Schumaker.

Professors Emeriti:

Patricia J.S. Colberg, Charles W. Dolan, Thomas V. Edgar, K. James Fornstrom, Victor R. Hasfurther, Michael Humenick, Anton Munari, Larry O. Pochop, Jay Puckett, Richard J. Schmidt, James L. Smith, John P. Turner.

Civil Engineering

The mission of the department of Civil and Architectural Engineering and Construction Management at the University of Wyoming is:

- To educate and prepare Civil & Architectural Engineering and Construction Management students to lead as designers, builders, project managers and entrepreneurs as it relates to the sustainable built and natural environments.
- To develop technical solutions through research, innovation, and improved infrastructure to diversify and grow the economies that serve Wyoming and the world.

The Civil Engineering curriculum begins with a basic education in the physical, engineering, mathematical and computer sciences. This foundation supports further development of engineering topics that prepare the engineer to address critical societal needs. To meet these needs, the Civil Engineer designs and builds bridges, buildings, dams and hydraulic structures, pipelines and canals, power plants, transportation facilities, sanitary and environmental engineering facilities, surveying and mapping systems, space and ocean platforms, as well as numerous other engineering systems. The civil engineer must also be aware of the social, humanistic, and political aspects of their projects. Therefore, course work in the humanities and social sciences is required to better understand the social aspects of public works. During the last two years of their program, students may pursue several areas of Civil Engineering or, depending upon their interests, more specialized courses in one or more of the specific technical areas listed below. All students must have a comprehensive design experience.

Structural engineering: Analysis and design of structural systems including buildings, bridges, towers and other structures. Structural engineering also includes the study of solid mechanics and advanced structural materials.

Environmental engineering: Analysis, design and development of engineering systems to provide potable water supplies, treat municipal, industrial and hazardous wastes and protect human health and the environment.

Water resource engineering: Planning, analysis and design of hydraulic and hydrologic systems with respect to watersheds, municipalities, irrigation and drainage, and flood control. Conservation and management of groundwater and surface water are emphasized.

Transportation engineering: Planning, analysis and design of highways, traffic engineering and control, traffic safety, and pavement maintenance, design and rehabilitation.

Geotechnical engineering: Design and analysis of foundations, dams, embankments, slope stability and construction practices in soil and rock.

The Civil Engineering curriculum prepares the graduate to engage in professional practice, and upon completion of post-graduate requirements, to obtain registration as a Professional Engineer. It also provides the graduate with an excellent preparation for graduate studies in engineering, business or law.

Civil Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours. Students may have a maximum of 6 credits in courses with a grade of D in upper division CE courses that apply towards their degree program.

Computer Requirement

Many courses in Civil Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software program (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

CE Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

CE-OB1. Be able to successfully practice the profession of Civil Engineering.
CE-OB2. Be prepared and motivated to accept challenging assignments and responsibilities.
CE-OB3. Demonstrate successful professional growth through leadership development and career progression.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills.

Specifically, every University of Wyoming Civil Engineering graduate shall have:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Transfer Coursework: The Civil Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I

OR

- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information.

Graduate Study

Graduate Programs

An advanced degree in civil and architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and doctor of philosophy. Areas of study in the M.S. and Ph.D. programs include: environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources engineering. The department also offers a master of science in architectural engineering and a master of science in environmental engineering in cooperation with the Department of Chemical and Petroleum Engineering. Additional information is available from the department or from the Web page.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree with at least a 3.000 GPA from an accredited engineering curriculum and a GRE combined minimum score of 298.

Ph.D. applicants are reviewed with regard to stated interests, objectives and the ability of the department to provide a quality experience for the applicant.

International students must achieve a TOEFL score of 550 on the paper-based, a minimum of 76 on the internet-based or a minimum of 6.0 on the IELTS.

Architectural Engineering

Architectural Engineering is a rapidly expanding profession that deals with the myriad aspects of buildings and their design, construction and operation. Architectural Engineers are typically specialists, responsible for the design and integration of such building elements as the structural, plumbing, fire protection, heating and air conditioning, or lighting and electrical systems. The curriculum in architectural engineering is designed to acquaint students with the various aspects of building design and construction and exposes them to a variety of courses dealing with different building materials and systems. The curriculum also includes course work in the humanities and social sciences, both to enrich the student's academic experience and assist in dealing with and contributing to society. The program leads to a Bachelor of Science in Architectural Engineering, preparing graduates to engage in practice as Professional Engineers upon completion of post-graduate registration requirements. Graduate work with emphasis in Architectural Engineering leading to a Master of Science and Doctor of Philosophy degree is offered through the Civil and Mechanical Engineering Programs. Additionally, advanced study can also be pursued in allied areas such as architecture, business or other engineering fields.

Students choose an area of emphasis in either structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists.

Architectural Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours.

Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree program.

Computer Requirement

Many courses in Architectural Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software programs (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

Architectural Engineering Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

ARE-OB1 Be able to successfully practice the profession of Architectural Engineering.
ARE-OB2 Be prepared and motivated to accept challenging assignments and responsibilities.
ARE-OB3 Demonstrate successful professional growth through leadership development and career progression.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Transfer Coursework: The Architectural Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I

OR

- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information

Graduate Study

Graduate Programs

An advanced degree in architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and Areas of study in the M.S. programs include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, and building energy modeling. Additional information is available from the department or from the Web page.

Students choose an area of emphasis in either, building, structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists. Students are required to have a lap top computer.

Architectural engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in civil and architectural engineering courses attempted at this university.

Construction Management

Construction Management is a rapidly-growing discipline, that is focused on the planning and oversight required to deliver construction projects on-time and on-budget. Students learn skills such as project management, decision making, budgeting, scheduling, and site logistics including safety planning, surveying, and building information modeling.

The Construction Management curriculum is designed to prepare students for success in a wide variety of career paths available in the construction sector. The curriculum includes course work in construction, business, humanities and social sciences to enrich the student's academic experience and to assist them in making a positive contribution to society. The program leads to a four-year Bachelor of Science in Construction Management degree.

Construction Management degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 in courses required for the major.

A grade of C or better is required in all required courses with a CM prefix.

Construction Management Learning Objectives

Upon graduation students shall be able to:

- Create written communications appropriate to the construction discipline.
- Create oral presentations appropriate to the construction discipline.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based on ethical principles.
- Analyze construction documents for planning and management of construction processes.
- Analyze methods, materials, and equipment used to construct projects.
- Apply electronic-based technology to manage the construction process.
- Apply basic surveying techniques for construction layout and control.
- Understand construction management skills as a member of a multi-disciplinary team.
- Understand different methods for project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
- Understand construction risk management.

- Understand construction accounting and cost control.
- Understand construction quality assurance and control.
- Understand construction project control processes.
- Understand the legal implications of contract, common, and regulatory law to manage a construction project.
- Understand the basic principles of sustainable construction.
- Understand the basic principles of structural behavior.
- Understand the basic principles of mechanical, electrical and piping system.

The University of Wyoming Construction Management program is accredited by the American Council for Construction Education (ACCE).

Environmental Engineering

3074/4055 Engineering Building,
766-5255/766-2500
E-mail: cae.info@uwyo.edu
Web site: www.uwyo.edu/chemical/graduate/prospective/environmental/index.html

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering. This interdisciplinary degree offers students an engineering perspective for solutions to environmental problems. Emphasis is on minimization, monitoring, control, and processing of waste products as well as treatment and disposal associated with point and non-point pollution sources. Integration of engineering with science, regulatory, and policy aspects of environmental engineering is an important component of this unique program. Further information is available from the environmental engineering graduate studies program office and/or departments involved.

Program Specific Admission Requirements

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

- A GPA of 3.000 (A=4.000), or equivalent;
- A GRE score of 291 (combined verbal and quantitative sections);
- For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree: A TOEFL score of 76 (Internet based) or an IELTS score of 6.0.

Complete official transcripts of all prior college-level coursework and recommendations from three references must be submitted as parts of the application.

The deadline to submit application credentials is February 1 (to be considered for fall semester), and October 1 (to be considered for spring semester).

The application will not be processed until all the necessary documents have been submitted.

Major

Architectural Engineering, B.S.

Architectural Engineers create structural and mechanical-electrical-plumbing systems for buildings. The B.S. in Architectural Engineering is accredited by ABET and provides a path to P.E. licensure. Note: This is not an Architecture degree. This degree program requires (120) credits, (42) of which are upper division credits.

Accreditation

The Architectural Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Architectural and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must Take one additional USP course, advisor approved.

Core Courses: 73 Credit Hours

- ARE 1000 - Exploring CAECM Credits: 1
- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3
- ARE 3110 - Professional Practice Credits: 3
- ARE 3200 - Structural Analysis I Credits: 3
- ARE 3210 - Civil Engineering Materials Credits: 4
- ARE 3300 - Building Electrical and Plumbing Systems Credits: 3
- ARE 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ARE 3600 - Architectural Design Studio III Credits: 3
- ARE 4600 - Architectural Design Studio IV Credits: 3
- ART 3030 - History of Architecture Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3

- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Geology Course: 4 Credit Hours

Must take one of the following.

- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

Physics Course: 4 Credit Hours

Must take one of the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

ARE Professional Development Courses: 18 Credit Hours Required

Must take six of the following:

- ARE 3360 - Fundamentals of Transport Phenomena Credits: 3
- ARE 4200 - Structural Analysis II Credits: 3
- ARE 4250 - Structural Steel Design Credits: 3
- ARE 4260 - Structural Concrete Design Credits: 3
- ARE 4285 - Masonry Design Credits: 3
- ARE 4295 - Structural Timber Design Credits: 3
- ARE 4330 - Building Electrical Systems Credits: 3
- ARE 4390 - Building Safety and Fire Protection Credits: 3
- ARE 4430 - HVAC Systems Analysis and Design Credits: 3
- ARE 4490 - Modeling and Optimization of Energy Systems Credits: 3
- CE 3600 - Soil Mechanics I Credits: 4
- CE 4610 - Foundation Engineering Credits: 3
- CE 4620 - Soil and Rock Slope Engineering Credits: 3
- CE 4630 - Ground Improvement, Reinforcement and Treatment Credits: 3
- CE 5010 - Advanced Mechanics of Materials Credits: 3
- CE 5200 - Advanced Structural Analysis Credits: 3
- CE 5220 - Structural Dynamics Credits: 3
- CE 5255 - Advanced Steel Design Credits: 3
- CE 5270 - Highway Bridge Engineering Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3170 - Machine Design Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3

- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

ARE Capstone: 3 Credit Hours

Must take 1 of the following courses

- ARE 4720 - Structural Systems Design Project Credits: 3
- ARE 4740 - Mechanical Systems Design Project Credits: 3

ARE Math/Sci/Tech/Prof Courses: 3 credit hours

Must take 3 additional credit hours in Math/Science/Technical/Professional courses.

Additional Requirements/Program Information

- Advanced Standing/Gateway: Prior to enrolling in upper division ARE/CE courses, students must earn 57 quality points in the following courses: CHEM 1020, PHYS 1210 or PHYS 1220, MATH 2200, MATH 2205, ES 2110, ES 2120, and ES 2410.
- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all engineering courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Students choose an area of emphasis in either structural or mechanical systems, and select Optional Electives and the Capstone Design for their emphasis area. Care should be taken to ensure prerequisites are completed.
- Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- No more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Civil Engineering, B.S.

Civil Engineers create infrastructure and development projects, including structures, transportation, water & wastewater, earthworks, and urban site plans. The B.S. in Civil Engineering is accredited by ABET and provides a path to P.E. licensure.

Accreditation

The Civil Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Civil and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must take one additional USP course, advisor approved.

Core Courses: 76 Credits

- CE 1000 - Exploring CAECM Credits: 1
- CE 1010 - Civil Engineering Tools Credits: 3
- CE 2070 - Engineering Surveying Credits: 4
- CE 3110 - Professional Practice Credits: 3

- CE 3200 - Structural Analysis I Credits: 3
- CE 3210 - Civil Engineering Materials Credits: 4
- CE 3300 - Hydraulic Engineering Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 3500 - Transportation Engineering Credits: 4
- CE 3600 - Soil Mechanics I Credits: 4
- CE 4010 - Civil Engineering Design Credits: 3
- CE 4900 - Comprehensive Design Experience Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Physics Course

Must take one of the following:

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Science Elective: 4 credit hours

Must take one of the following.

- ASTR 2310 - General Astronomy I Credits: 4
- ATSC 2000 - Introduction to Meteorology Credits: 4
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- LIFE 1010 - General Biology Credits: 4
- ENR 1200 - Environment Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1110 - Physical Geology for Engineers Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4

Structural Design Course: 3 credit hours

Must take one of the following.

- CE 4250 - Structural Steel Design Credits: 3
- CE 4260 - Structural Concrete Design Credits: 3

CE Professional Development Courses: 12 credit hours

Must take four of the following.

Selection of Professional Development Courses must demonstrate breadth by covering more than one area among Environmental, Geotechnical, Transportation and Water Resources.

- CE 4200 - Structural Analysis II Credits: 3
- CE 4265 - Prestressed Concrete Design Credits: 3
- CE 4285 - Masonry Design Credits: 3
- CE 4295 - Structural Timber Design Credits: 3
- CE 4400 - Design of Water Treatment Facilities Credits: 3
- CE 4410 - Design of Wastewater Treatment Facilities Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CE 4441 - Solid Waste Engineering Credits: 3
- CE 4510 - Pavement Design for Airports and Highways Credits: 3
- CE 4530 - Traffic Engineering: Operations Credits: 3
- CE 4555 - Geometric Design of Highways Credits: 3
- CE 4610 - Foundation Engineering Credits: 3
- CE 4620 - Soil and Rock Slope Engineering Credits: 3
- CE 4630 - Ground Improvement, Reinforcement and Treatment Credits: 3
- CE 4800 - Hydrology Credits: 3
- CE 4810 - Groundwater Hydrology Credits: 3
- CE 4870 - Water Resource Engineering Credits: 3

CE Math/Sci/Tech/Prof Courses: 3 credit hours

Must take 3 additional credit hours in Math/Science/Technical/Professional courses.

Additional Requirements/Program Information

- Advanced Standing/Gateway: Prior to enrolling in upper division ARE/CE courses, students must earn 57 quality points in the following courses: CHEM 1020, PHYS 1210 or PHYS 1220, MATH 2200, MATH 2205, ES 2110, ES 2120, and ES 2410.
- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all engineering courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Students must take either CE 4250 or CE 4260 for the Structural Design requirement. Remaining Professional Development Electives must cover at least two of the following areas: Environmental, Geotechnical, Transportation, Water Resources.
- Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- No more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Civil Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Construction Management, B.S.

Construction Managers are responsible for overseeing construction projects, including schedules, budgets, and quality control. The B.S. in Construction Management is a candidate for accreditation by ACCE and provides numerous career paths.

Accreditation

The Construction Management Program is accredited by the American Council for Construction Education (ACCE), https://www.acce-hq.org/, under the Bachelor Degree Programs.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must take one additional USP course, advisor approved.

Core Courses: 53 credit hours

- CM 1000 - Exploring CAECM Credits: 1
- CE 2070 - Engineering Surveying Credits: 4
- CM 2000 - Introduction to Construction Management Credits: 3
- CM 2120 - Construction Materials and Methods Credits: 3
- CM 2200 - Construction Documents Credits: 3
- CM 2300 - Construction Safety Credits: 3
- CM 2400 - MEP Systems Credits: 3
- CM 3100 - Construction Scheduling Credits: 3
- CM 3160 - Construction Law & Contracts Credits: 3
- CM 3180 - Evolving Technologies in CM Credits: 3
- CM 3200 - Statics & Structural Systems Credits: 4
- CM 3210 - Construction Estimating Credits: 3
- CM 3220 - Soils & Concrete Credits: 4
- CM 4100 - Project Management Credits: 3
- CM 4140 - Heavy CM Methods Credits: 3
- CM 4600 - Building Info. Modeling Credits: 3
- CM 4900 - Capstone Project Credits: 4

Business & Professional Courses: 12 credit hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3

Math/Science Courses: 18 credit hours

- GEOL 1100 - Physical Geology Credits: 4
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- Math/Science Elective Credits: 3

CM Electives: 6 credit hours

Must take 6 additional credit hours in Construction Management elective courses.

General Electives: 9 credit hours

Must take 9 additional credit hours in general elective courses.

Additional Requirements/Program Information

- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Math 2350 may replace Math 2200 but student must also have Math 1405.
- Math 1405 may be satisfied with Level 5 of the Math placement exam or Math ACT of 27 or SAT Math of 640. Students placing out of Math 1405 will need an additional general elective.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.

Minor

Construction Management Minor

The Minor in Construction Management is a 15 credit hour program available to UW undergraduate students in other majors. A Minor in Construction Management develops skills and knowledge that can applied in the construction industry.

For UW undergraduate students in other majors, a Minor in Construction Management may be earned by:

Completing 15 credits by taking the following CM courses:

CM 2000

CM 2300

CM 2600

CM 3210

CM 3100

Architectural Engineering majors will not be permitted to use the following courses to satisfy the Minor requirement (or as ARE Major Electives), because they duplicate content in required courses in their major:

CM 2120: Construction Materials and Methods

CM 2200: Structures

CM 2400: MEP Systems

CM 2600: Construction Documents

CM 3220: Soils and Concrete

CM 4600: Building Info. Modeling

Civil Engineering majors will not be permitted to use the following courses to satisfy the Minor requirements (or as CE MSTP Electives), because they duplicate content in required courses in their major:

CM 2200: Structures

CM 3220: Soils and Concrete

Minors in Construction Management are not accredited

Land Surveying Minor

May be paired with any major and can be completed 100% online. These classes may be used toward meeting education requirements for licensure. Concepts include surveying, legal, mapping, real property, ethics, boundary. This program requires 18 credits.

Additional Information

The Land Surveying minor may be paired with any major. The intent of this minor is to prepare the student for the pursuit of Professional Licensure. Those only seeking the remote learning LS courses should see the Cadastral Land Surveying Certificate found at http://www.uwyo.edu/civil/landsurvey/. All LS classes are offered as distance learning through Distance Education Programs.

Ethics Requirement

- LS 3300 - Ethics for the Professional Surveyor Credits: 1
  OR
- MGT 2030 - Principle-Based Ethics Credits: 3

Curriculum Requirements:

- LS 2010 - Engineering Surveying Lecture Credits: 2
  AND
- LS 3300 - Ethics for the Professional Surveyor Credits: 1
  OR
- CE 2070 - Engineering Surveying Credits: 4
  AND minimum of 15 credits from the following list:

- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2110 - Real Property Law Credits: 3
- LS 2400 - Basic Geodesy for Surveyors Credits: 2
- LS 2410 - GIS in Surveying Credits: 3
  OR
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- LS 3100 - Real Property Descriptions Credits: 2
- LS 3110 - Boundary Evidence Credits: 2

- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4

Total Credits: 18 Hours

The intent of this application based minor is to provide students with more indepth knowledge of surveying. Those seeking Professional Licensure should see the Cadastral Surveying Certificate.

Graduate

Architectural Engineering, M.S.

The M.S. in Architectural Engineering is offered for students who wish to pursue advanced coursework and research in the discipline beyond the B.S. This is not an accredited pre-professional degree. 30 credits required.

Plan A (Thesis)

The degree of master of science, Plan A, requires a minimum of 26 hours of coursework and a minimum of 4 hours thesis research in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework for approval by the departmental graduate studies committee (AREGS), and the department head.

Plan A is required of all state or contract supported graduate assistants.

Plan B (Non-thesis)

Requires a minimum of 30 hours of coursework and a Plan B paper, in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework and the course number that the Plan B paper covers for approval by the AREGS and the department head.

Civil Engineering, M.S.

The M.S. in Civil Engineering is offered for students who wish to pursue advanced coursework and research in the discipline beyond the B.S. This is not an accredited pre-professional degree. 30 credits required.

Program Specific Degree Requirements

Master's Program

Areas of study in the master of science program include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources

engineering. The master of science degree in each of these areas requires completion of 12 to 18 hours of engineering courses related to the particular program area.

Plan A (Thesis)

The degree of master of science, Plan A, requires a minimum of 26 hours of coursework and a minimum of 4 hours thesis research in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework for approval by the departmental graduate studies committee (CEGS), and the department head.

Plan A is required of all state or contract supported graduate assistants.

Plan B (Non-Thesis)

Requires a minimum of 30 hours of coursework and a Plan B paper, in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework and the course number that the Plan B paper covers for approval by the CEGS and the department head.

Civil Engineering, Ph.D.

The Ph.D. degree in Civil Engineering is offered for students who wish to pursue advanced coursework and a comprehensive research project led by a faculty advisor. 42 credits and a dissertation are required.

Certificate

Cadastral Surveying Certificate

The 100% online program is designed for working professionals to serve those seeking or exploring meeting education requirements for licensure. Concepts include surveying, legal, mapping, real property, ethics, boundary. This certificate requires 30 credits.

Program Information

- Students must be properly admitted as Cadastral Surveying Certificate students through the University of Wyoming Admissions Office to be eligible for this Certficate.
- This certificate requires a minimum of 30 semester hours as listed below.
- All transfer credit is subject to review by the UW Land Surveying Director.
- A grade of C or better must be earned in each course.
- The Certificate meets the Wyoming Board of Professional Engineers and Land Surveying licensing requirements for the surveying specific course work required to apply to be a Land Surveyor in Training (LSIT).
- Students earning the Cadastral Surveying Certificate are NOT eligible for Federal Financial Aid. Students may utilize private student loan programs available through the Student Financial Aid Office.
- VA Education Benefits & VocRehab are applicable to the Cadastral Surveying Certificate.
- The UW Cadastral Surveying program is not ABET Accredited.

- Students should have a working knowledge of algebra and trigonometry, and some experience with spreadsheets prior to beginning in this program.
- AutoCAD Civil 3D is recommended.
- Certificate may be paired with an AS in Surveying Technology or a BS in Organizational Leadership. Contact LS Director for additional details.

Course Requirements

- LS 2010 - Engineering Surveying Lecture Credits: 2
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2110 - Real Property Law Credits: 3
- LS 2400 - Basic Geodesy for Surveyors Credits: 2
- LS 3100 - Real Property Descriptions Credits: 2
- LS 3110 - Boundary Evidence Credits: 2
- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4

Required Credits: 30 Hours Minimum

QuickStart Program

Civil and Architectural Engineering Quick Start, B.S./M.S.

The MSCE Quick Start (Plan A) program in Civil and Architectural Engineering (CAE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor of science (BS) degree in Civil Engineering or Architectural Engineering. This degree program requires 30 credits.

Department of Electrical Engineering and Computer Science

5068 Engineering Building, (307) 766-2279
Web site: www.uwyo.edu/eecs

Professors:

STEVEN F. BARRETT, B.S. University of Nebraska 1979; M.E. University of Idaho 1986; Ph.D. University of Texas 1993; Professor of EECS 2011, 1999.

RUBEN GAMBOA, B.S. Angelo State University 1984; M.C.S. Texas A&M University 1986; Ph.D. The University of Texas 1999; Professor of EECS 2015, 2002.

JOHN M. HITCHCOCK, B.S. Iowa State University 1999; M.S. 2001; Ph.D. 2003; Professor of EECS 2015, 2003.

JOHN E. McINROY, B.S. University of Wyoming 1986; M.S. Rensselaer Polytechnic Institute 1988; Ph.D. 1991; Professor of EECS 2002, 1991.

SURESH S. MUKNAHALLIPATNA, B.E. University of Bangalore, India 1988; M.E. 1991; Ph.D. University of Wyoming 1995; Professor of EECS 2010, 1997.

CAMERON H.G. WRIGHT, B.S. Louisiana Tech University 1983; M.S. Purdue University 1988; Ph.D. University of Texas 1996; Professor of EECS 2016, 2003.

Associate Professors:

AMY BANIC, B.S. Duquesne University 2003; M.S. University of North Carolina 2005; Ph.D. 2008; Associate Professor of EECS 2012, 2010.

DONGLIANG DUAN, B.E. Huazhong University of Science and Technology 2006; M.S. University of Florida 2009; Ph.D. Colorado State University 2012; Associate Professor of EECS 2019, 2012.

LARS KOTTHOFF, Diplom (M.Sc.) University of Leipzig 2007; Ph.D. University of St. Andrews 2012; Associate Professor of EECS 2022, 2017.

EVA S. FERRE-PIKAL, B.S. University of Puerto Rico 1988; M.S. University of Michigan 1989; Ph.D. University of Colorado 1996; Associate Professor of EECS 2004, 1998.

JOHN F. O'BRIEN, B.S. California State Polytechnic University, Pomona 1991; M.S. University of Wyoming 1997; Ph.D. Rensselaer Polytechnic Institute 2001; Associate Professor of EECS 2009, 2003.

JON M. PIKAL, B.S. Purdue University 1988; M.S. University of Colorado 1993; Ph.D. Colorado State University 1999; Associate Professor of EECS 2005, 1999.

Assistant Professors:

CHAO JIANG, B.E. Chongqing University 2009; Ph.D. Stevens Institute of Technology 2019; Assistant Professor of EECS 2019.

DUONG NGUYEN, B.S. Hanoi University of Science and Technology 2006; M.S. Purdue University 2012; Ph.D. Michigan State University 2021. Assistant Professor of EECS 2022.

NGA NGUYEN, B.S. Hanoi University of Science and Technology 2005; M.S. 2007; Ph.D. Michigan State University 2017; Assistant Professor of EECS 2018. Assistant Professor of EECS 2022.

SHIVANAND SHESHAPPANAVAR,B.E. Visvesvaraya Tech. University; M.T. Visvesvaraya Tech; M.S. Syracuse University, Ph.D. U. Delaware 2023; Assistant Professor of EECS 2023.

DIKSHA SHUKLA, B.S. Kanpur University 2008; M.C.A. Jawaharlal Nehru University 2011; M.S. Louisiana Tech University 2014; Ph.D. Syracuse University 2019; Assistant Professor of EECS 2019. Assistant Professor of EECS 2022.

ZEJIAN ZHOU, B.S. 2016; Stevens Institute of Technology; Ph.D. Stevens Institute of Technology 2021. Assistant Professor of EECS 2022.

Senior Lecturers:

JAMES S. WARD, B.S. University of Wyoming 1993; M.S. 1997; Senior Lecturer of EECS 2011, 2000.

Assistant Lecturers:

LAURA OLER, B.S. Brigham Young U. , M.S. Massachusetts Institute of Technology , Assistant Lecturer of EECS 2023

DANIEL RADOSEVICH, B.S. University of Wyoming 2018; Assistant Lecturer of EECS 2022.

Adjunct Faculty:

Robin Hill, Elena Oggero, Guido Pagnacco

Professors Emeriti:

Thomas A. Bailey, Jr., Mark Balas, Henry R. Bauer III, James L. Caldwell, Christos T. Constantinides, John R. Cowles, Jerry J. Cupal, Clifford D. Ferris, Jerry Hamann, Raymond G. Jacquot, Robert F. Kubichek, Stanislaw Legowski, John Pierre, John Rowland, John W. Steadman, A.H.M. Sadrul Ula, David Whitman

Lecturers Emeritus:

Jeri R. Hanly

OVERVIEW

The Department of Electrical Engineering and Computer Science is home to three undergraduate ABET accredited programs (Computer Science, Computer Engineering and Electrical Engineering), and M.S. and Ph.D. programs in

Computer Science and Electrical Engineering. Below we describe each of these programs; first the undergraduate programs and then the graduate programs.

UNDERGRADUATE PROGRAMS

The three undergraduate programs are ABET accredited and lead to a B.S. in Computer Science, Computer Engineering or Electrical Engineering. The first years of the various programs overlap significantly to allow students with an interest in computing or electrical engineering to explore the areas before identifying a specialty.

COMPUTER SCIENCE

A Bachelor of Science degree (B.S.) in Computer Science prepares students for careers in any industry or to continue with graduate study in Computer Science and many other fields. Computer science students learn to approach problems from a computational (algorithmic) point of view, and this approach to problem solving often leads to better and more general solutions. Software systems, information technology, and large-scale data applications are core technologies in every area, and the applications continue to grow with software and information systems becoming more embedded in everyday life. These systems are essential tools in science and engineering, for business and finance, government, communications, medicine, and entertainment. Software systems make the world go round and smart devices, such as phones, tablets, glasses, wearable devices, medical implants are ubiquitous. As a result, computer science has grown from a specialized field to an independent, broadly based area that studies all aspects of the use and understanding of software systems, information, and computational processes. Students studying B.S. in Computer Science at the University of Wyoming have the option to focus their studies by taking a concentration in Cybersecurity. The Cybersecurity certificate captures core technical cyber security foundations and principles, from databases and networks to advanced threat detection and mitigation. This B.S. program is ABET accredited.

Program Objectives for Computer Science program

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Program Learning Outcomes for Computer Science program

The program of study in Computer Science enables students to achieve, by the time of graduation:

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

ELECTRICAL ENGINEERING

This curriculum has been designed to provide the depth of understanding necessary to meet challenges of changing technology while being flexible enough to allow students to pursue in-depth study in at least one area of electrical engineering. To attain this, students must understand mathematics and the basic engineering sciences. The fundamental electrical engineering education consists of courses in circuits, networks, electromagnetics, electronics, digital systems, communications, controls, and energy conversion. Selection of elective courses, in consultation with the academic adviser, enables students to specialize in the above-mentioned areas, robotics, microcircuits, microprocessors and high frequency electronics.

Laboratory work associated with electrical engineering courses is an important part of the curricula. This work helps students gain experience in applying the theoretical knowledge they acquire to practical engineering problems. Engineering design is a key component of the curriculum that concludes with significant design experience in the senior year. The program also includes the option listed below.

F.M. Long Bioengineering Option. Named in honor of UW Professor Francis M. Long, this area offers excellent opportunities for those interested in applying the techniques of the electronic engineer to problems of environmental science, biology, and medicine. Employment opportunities exist in state and federal agencies, industry, and medical institutions. Career placement includes such areas as environmental monitoring, design and development of biological and medical instrumentation and clinical engineering. With minor modifications, the curriculum shown may be used as preparation for entrance to medical or dental school.

COMPUTER ENGINEERING

Computer Engineering is a blend of Computer Science and Electrical Engineering. Computer Engineering students receive training that allows them to design complex computer systems and embed them in custom applications such as robots, spacecraft, automobiles, etc. A typical system may interface with a sensor to measure the world, then decide how to best use the information to achieve goals and eventually turn on actuators which perform the needed task. They also develop computer vision systems, high performance computers and software, and the Internet of Things. They take many of the same required courses as Electrical Engineers but fill in their electives with computer specific courses. Graduates can design electric circuits, understand network hardware, design computer systems, and write the software inside those systems. Compared to Electrical Engineers, Computer Engineers have less breadth of knowledge in Electrical Engineering but more depth in software and computer hardware. Compared to Computer Scientists, Computer Engineers know much more about hardware and signal/system theory. Computer Engineers sometimes also major in either Electrical Engineering or Computer Science to get two degrees.

Concurrent Major and Minor

The department offers a concurrent major and minor in both the electrical engineering and computer engineering programs. Consult the department office for a current detailed list of requirements.

Educational Objectives for Electrical and Computer Engineering Programs

Graduates of the University of Wyoming Electrical and Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Student Outcomes Electrical and Computer Engineering Programs

All Electrical (Computer) Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Grade Policy

Electrical and computer engineering majors must achieve a grade of C (2.000) or better on courses that are prerequisites for courses within the student's course of study. Students must also achieve a grade of C (2.000) or better in all required mathematics courses.

Graduate Study - Computer Science

The Department offers graduate work leading to the Master of Science degree in computer science and the Doctor of Philosophy in computer science. The Department also offers a graduate minor in computer science.

Program Specific Admission Requirement

Applicants for a graduate degree in computer science are expected to have completed undergraduate courses in Algorithms and Data Structures (COSC 3020 equivalent), Theory of Computing (COSC 4100 or COSC 4200 equivalent), Operating Systems (COSC 4740 equivalent), and Programming languages or Compilers (COSC 4780 or COSC 4785 equivalent). Applicants to the doctoral program must have completed a bachelor's or master's degree in computer science or a closely related discipline at an accredited university or college.

The Graduate Record Examination (GRE) is encourage for all applicants. Our strongest students tend to have scores above these minimums, with quantitative scores often around the 90th percentile or higher.

Students whose native language is not English must also complete the Test of English as a Foreign Language (TOEFL) with a score of at least 550 on the paper based TOEFL; 213 on the computerized test including a 58 or better in section 1-Reading; 80 for the Internet based TOEFL (iBT) including a score of 23 or better in section 1-Reading or the International English Language Testing System (IELTS) test with a 6.5 score or better. Students may also use the Duolingo exam, with a minimum of 105 overall and 125 in the Literacy section.

You must submit to the online application system contact information for three references that can evaluate your potential for graduate study in computer science. If you wish to pursue a Ph.D., the letters should address your ability to pursue quality original research. Letters should also evaluate your oral and written communication skills.

If you meet the minimum criteria and would like to formally apply for admission you will also need to submit the following information during the completion of your application via the application portal:

Copies of transcripts from all colleges and universities (minimum GPA or equivalent 3.00 on a scale of 4.00) for all degrees attained. International applicants must submit copies of individual semester transcripts, consolidated transcripts will not be accepted.

Copy of GRE scores a minimum percentile of 40% on verbal and 65% on quantitative portions of the exam. The majority of admitted students tend to have scores above these minimums.

Contact information for three recommendation letters (applicants should follow up with recommenders to ensure this requirement is fulfilled; applications will not be processed further until all recommendations have been received).

International students will also need to submit a copy of TOEFL scores, IELTS scores, or Duolingo scores.

High performing undergraduates in computer science can elect for Quick Start admission to the graduate program, allowing the sharing of up to six credit hours of 5000-level coursework toward the completion of both the B.S. and the graduate degree programs.

Graduate Program in Electrical Engineering

The department offers programs of study leading to the Master of Science and Doctor of Philosophy degrees in electrical engineering. Study programs are individually planned to students' interests in both course work and research. The areas of major concentration at the graduate level are:

Bioengineering

Computer Vision

Controls

Electrical Energy Systems Electronic Systems and Devices Robotics

Machine Learning

Robotics

Signal Processing and Computer Networks

The department also offers a combined B.S./M.S. program for exceptional students wishing to obtain both degrees in a shorter period.

Program Specific Admission Requirements

A complete application must include:

Statement of purpose
Official transcripts from all post-secondary institutions attended
TOEFL total of 79 iBT or IELTS total 6.5.

Additionally, all international students who are state-funded teaching assistantships or any international student with teaching responsibilities are required to complete an Oral Proficiency Interview (OPI). Students will need to follow the recommendations to improve their English skills. Students on state-funding who fail to follow the recommendations or do not meet the minimum proficiency by the end of their first semester will not be able to receive any state-funding until they have demonstrated proficiency.

Major

Computer Engineering, B.S.

Provides knowledge to be able to design, analyze, and develop computer systems including processors, memory, embedded devices, and data communication systems for a wide range of application domains.

Accreditation

The Computer Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2300 - Discrete Structures Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- 3 credits of an approved Math/Science Elective [2]

Engineering Science

- ES 2110 - Statics Credits: 3 [3]
- ES 2120 - Dynamics Credits: 3 [3]

- ES 2210 - Electric Circuit Analysis Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4490 - Hardware Descriptive Language (HDL) Digital Design Credits: 3
- EE 4820 - Senior Design I Credits: 2 [4]
- EE 4830 - Senior Design II Credits: 2 [4]
- EE 4870 - Computer Network Hardware Credits: 4 [5]

  OR
- COSC 4760 - Computer Networks Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- EE 2150 - Computer Organization Credits:

CPEN Electives

12 credits from the following list.

A maximum of two CPEN elective courses can be from the computer science department.

EE 4075 is not allowed as a CPEN Elective.

- EE 4245 - Digital Signal Processing Credits: 3
- EE 4340 - Semiconductor Materials and Devices Credits: 3
- EE 4345 - Hardware Digital Signal Processing Credits: 3
- EE 4360 - VLSI Design Credits: 3
- EE 4440 - Communication Theory Credits: 3
- EE 4590 - Real Time Embedded Systems Credits: 3
- EE 4870 - Computer Network Hardware Credits: 4
- EE 4990 - Advanced Microprocessors Credits: 3
- EE 5390 - Computer Architecture Credits: 3
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- EE 5430 - 3-D Computer Vision Credits: 3
- EE 5460 - Probabilistic Robotics Credits: 3
- EE 5620 - Digital Image Processing Credits: 3

- EE 5630 - Advanced Image Processing Credits: 3
- EE 5650 - Object and Pattern Recognition Credits: 3
- EE 5670 - Digital Image Formation Credits: 3
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- COSC 3765 - Computer Security Credits: 3
- COSC 4210 - Web Application Development Credits: 3
- COSC 4220 - Design and Implementation in Emerging Environments Credits: 3
- COSC 4450 - Computer Graphics Credits: 3
- COSC 4550 - Introduction to Artificial Intelligence Credits: 3
- COSC 4555 - Machine Learning Credits: 3
- COSC 4560 - Modern Robots and Softbots Credits: 3
- COSC 4730 - Mobile Programming Credits: 3
- COSC 4735 - Advanced Mobile Programming Credits: 3
- COSC 4740 - Operating Systems Design Credits: 4
- COSC 4760 - Computer Networks Credits: 3
- BE 5410 - Rehabilitation Engineering Credits: 3
- MATH 4500 - Matrix Theory Credits: 3

EE/BE Elective

3 credits of an approved EE/BE Elective.

General Elective

3 credits of a general elective (1000 level or higher; any Math course must be 2000 level or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. While PHYS 1220 is not a prerequisite for ES 2210, it is recommended that PHYS 1220 should be taken before or concurrently with ES 2210.

[2] One course from the ECE Math/Science Elective List. ABET requires a minimum of 30 hours of Math/Science courses.

[3]Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

[4] To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[5] Network Congestion Control can also be taken to fulfill the CPEN network course requirement.

- Online courses taken outside of the Wyoming system will not be considered for preapproved transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all required mathematics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- EE 1101 is the recommended FYS course for EE and CPEN majors
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Computer Engineering Program Educational Objectives

Graduates of the University of Wyoming Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Computer Engineering - Student Learning Outcomes

All Computer Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Computer Science, B.S.

A state-of-the-art curriculum that provides a solid foundation in programming, algorithm design and analysis, cybersecurity, databases, and computer systems. Elective topics include: AI, ML, AR/VR, and Mobile apps.

Accreditation

> **The Computer Science Program is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer Science and Similarly Named Program Criteria.**

Degree Requirements

> The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Computer Science General Information

Computer Science majors must satisfactorily meet the requirements of the University Studies Program (USP), and they must complete a minimum of 120 credit hours, at least 42 of which must be upper division hours.

Note that some of the courses required for the Computer Science core or the concentrations will meet some of the USP requirements. Students do not have to take additional courses to meet those requirements.

All courses in Computer Science, Mathematics, and Statistics must be completed with a grade of C or better.

Mathematics and Science Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COSC 2300 - Discrete Structures Credits: 3

  OR
- MATH 2300 - Discrete Structures Credits: 3
- Approved Science course - 4 credits
- Approved Science course - 4 credits
- Approved Math/Science Elective - 4 credits

  ABET requires a minimum of 30 Math/Science credit hours.

  Math elective means any MATH course above Calculus II or STAT courses 3000 and up.

  Exceptions: cannot count MATH 2350, MATH 2355, MATH 4000, STAT 4220 [Inactive] or any variable credit courses toward this requirement.

  Courses meeting the Science requirement must have a lab component and be for science or engineering majors. See Department web pages for a current list of approved courses.

Computer Science Courses

Introductory Programming Course - Choose one of:

- COSC 1010 - Computational Thinking and Programming Credits: 3

  OR
- COSC 1015 - Introduction to Programming for Data Science Credits: 3

- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- EE 2150 - Computer Organization Credits:
- COSC 3011 - Introduction to Software Design Credits: 3
- COSC 3015 - Functional Programming Credits: 3
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- COSC 3050 - Ethics for the Computer Professional Credits: 1
- COSC 3765 - Computer Security Credits: 3

Theory Course - Choose one of:

- COSC 4100 - Foundations of Computing Credits: 3

OR

- COSC 4200 - Computability and Complexity Credits: 3

Operating Systems Course - Choose one of:

- COSC 4740 - Operating Systems Design Credits: 4

OR

- COSC 3750 - Linux Programming for System Applications Credits: 3

Programming Language Course - Choose one of:

- COSC 4780 - Principles of Programming Languages Credits: 3

OR

- COSC 4785 - Compiler Construction Credits: 3

Systems Course - Choose one of:

- COSC 4760 - Computer Networks Credits: 3

OR

- COSC 4820 - Database Systems Credits: 3

- COSC 4950 - Senior Design I Credits: 1
- COSC 4955 - Senior Design II Credits: 2

Electives

- 9 credits of COSC Electives (3000-level or above, not used to complete any other requirement)
- General Electives to reach 120 credits.

A total of 3 credits of COSC 3970 can be used.

Approved EE courses may also be taken as COSC electives. See Department web pages for a current list of approved courses.

General electives include any course at or above the 1000 level, not used to complete any other requirement.

Electives should be selected to meet the 42 hour requirement for Upper Division credits.

Computer Science Program Educational Objectives

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Computer Science - Student Learning Outcomes

The program of study in Computer Science enables students to achieve, by the time of graduation:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

Electrical Engineering, B.S.

Learn to design, develop, analyze, and create systems for a wide variety of fields, including power generation, control systems, communications, signal processing, and microprocessors.

Accreditation

The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- 3 credits of an approved Math/Science Elective [2]

Engineering Science and Computer Science

- ES 2110 - Statics Credits: 3 [3]
- ES 2120 - Dynamics Credits: 3 [3]
- ES 2210 - Electric Circuit Analysis Credits: 3
- COSC 1010 - Computational Thinking and Programming Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4075 - C++ with Numerical Methods for Engineers Credits: 4
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4440 - Communication Theory Credits: 3
- EE 4620 - Automatic Control Systems Credits: 3
- EE 4820 - Senior Design I Credits: 2 [4]
- EE 4830 - Senior Design II Credits: 2 [4]

Advisor Approved Electives

- 15 credits of EE or BE Electives (4000-Level or Above)
- 3 credits Approved Technical Electives.[5]
- 3 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

[2] One course from the ECE Math/Science Elective List. ABET requires a minimum of 30 hours of Math/ Science Electives.

[3] Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

[4] To meet the COM3 requirement with EE 4820 and EE 4830, the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[5] Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800

- Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all required mathematics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Electrical Engineering Program Educational Objectives

Graduates of the University of Wyoming Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering - Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Electrical Engineering, F.M. Long Bioengineering, B.S.

An Elec. Eng. degree where electives are chosen so that students can design and develop instruments, devices, and software for medical equipment. With a few more courses, it can serve as a pre-med or pre-dental program.

Accreditation

The Electrical Engineering, F.M. Long Bioengineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

Engineering Science

- ES 2110 - Statics Credits: 3 [2]

- ES 2120 - Dynamics Credits: 3 [2]
- ES 2210 - Electric Circuit Analysis Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4075 - C++ with Numerical Methods for Engineers Credits: 4
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4820 - Senior Design I Credits: 2 [3]
- EE 4830 - Senior Design II Credits: 2 [3]

Bio-Engineering and Electives

- COSC 1010 - Computational Thinking and Programming Credits: 3
- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3

  OR
- EE 4620 - Automatic Control Systems Credits: 3
- 3 credits of EE or BE Electives (4000-level or above)
- 3 credits Approved Technical Electives.[4]
- 2 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

[2] Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

3 To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[4] Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800.

- Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all mathmatics courses.

- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Electrical Engineering -F.M. Long Bioengineering Program Educational Objectives

Graduates of the University of Wyoming Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering, F.M. Long Bioengineering Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Minor

Computer Engineering Minor

Adds value to one's major by equipping students with fundamental skills needed to design, analyze, and develop computer systems for a wide range of application domains.

Accreditation

The Computer Engineering Minor is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer and Similarly Named Engineering Program Criteria.

Minor Requirements:

You must have a minimum of 12 credits of courses that are not counted toward your major.

- COSC 2150 - Computer Organization Credits: 3
- EE 4490 - Hardware Descriptive Language (HDL) Digital Design Credits: 3
- 17 credits of electrical engineering (EE) or CPEN Elective courses.

COSC Courses

The following COSC courses can also be used:

- COSC 1010 - Computational Thinking and Programming Credits: 3

  OR
- COSC 1015 - Introduction to Programming for Data Science Credits: 3

- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- COSC 4760 - Computer Networks Credits: 3

Computer Science Graduate Minor

A graduate minor in Computer Science gives you the skills and knowledge to understand how software-intensive systems are designed and implemented. With these skills, you can use computers to extend the state of the art in your major discipline.

Requirements:

12 credits are required, and must be completed with a grade of B or better.

- COSC 5110 - Analysis Of Algorithms Credits: 3
- 9 additional credits of 5000-level computer science courses

Computer Science Minor

Add value to your degree by learning computing including programming, databases, mobile computing,

web applications, machine learning and artificial intelligence.

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Requirements

18 credits of Computer Science courses are required and must be completed with a grade of C or better.

COSC 1101 and COSC 1200 cannot be used for the Computer Science Minor.

Electrical Engineering Minor

The electrical engineering minor adds value to one's major by equipping students with fundamental skills in circuit design, signals and systems analysis, computer logic, or electromagnetic theory.

Electrical Engineering Minor Requirements:

You must have a minimum of 12 credits of EE/BE courses that are not counted toward your major.

- ES 2210 - Electric Circuit Analysis Credits: 3
- plus a total of 20 credits of electrical engineering (EE) or bioengineering (BE) courses

Graduate

Computer Science, M.S.

A master's degree that prepares students for careers in industry or for a PhD level education in Computer Sciences. Topics include: Analysis of Algorithms, AI, ML, Cybersecurity, and HCI.

Program Specific Degree Requirements

Plan A (Thesis)

A total of at least 31 credit hours must be completed. The student must complete a minimum of 27 hours of courses, including the CORE and BREADTH REQUIREMENTS. At least 19 credit hours must be COSC courses. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 6 hours of 4000-level courses, may be included with the approval of the supervising M.S. committee.

Plan A students are required to formally defend their theses before their supervising committees. All defenses must be open and announced at least two weeks in advance. The thesis must be distributed to the committee at least two weeks in advance of the defense. If the student does not pass the defense, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Plan B (Non-Thesis)

The student must complete a minimum of 33 hours of courses, including the CORE and BREADTH REQUIREMENTS. At least 22 credit hours must be COSC courses. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 6 hours of 4000-level courses, may be included with the approval of the supervising M.S. committee.

UW Coursework Requirements for M.S. Transfer Students:

M.S. transfer students must complete at least 21 credit hours at the University of Wyoming. At least 12 credits of the CORE & BREADTH REQUIREMENTS must be taken at the University of Wyoming. No more than one class per

category of breadth may be counted towards this 12-credit total. The algorithms course credits may be counted toward this 12-credit total.

Computer Science Breadth Requirements

Students must earn a grade of B or better in one class from the Theory category, one class from the Artificial Intelligence category, and two classes from the Systems category. Thus there must be 12 credits taken to satisfy the breadth requirement. A list of courses in each category is available from the department. Although some courses may be listed under multiple categories, a course may only count once towards the breadth requirement.

Computer Science Core Requirements

COSC5110 - Analysis Of Algorithms must be completed with a grade of B or better. A grade of B- is not sufficient. Students are strongly encouraged to take COSC 5110 the first time it is offered after enrollment.

Summary of Credit Requirements

Plan A

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits: 12
- Additional courses Credits: 12

- COSC 5960 - Thesis Research Credits: 1-12

  OR
- COSC 5980 - Dissertation Research Credits: 1-12

Total Credits: 31 Hours

Plan B

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits: 12
- Additional courses Credits: 18

Total Credits: 33 Hours

Computer Science Quickstart B.S./M.S.

Enables well-qualified students to be admitted to the M.S. program during

the junior year of their B.S. program, and to work thereafter towards both

the B.S. and M.S. degrees in COSC.

Degree Requirements

Up to 6 credit hours from UW, at the 5000-level or above, may be

counted toward both the B.S. and M.S. degree programs.

Computer Science, Ph.D.

Prepares students to advance computing principles and practice. Specialties in AI, Complexity & Information Theory, Human-Computer Interaction, Cybersecurity, Machine learning, Computer Vision, and Distributed Computing.

Program Information

Each doctoral student will have a supervising committee of at least five members appointed. The primary functions of this committee are to suggest coursework, to administer the qualifying, preliminary, and final examinations, and to oversee and evaluate the research of the candidate. The committee will consist of at least three members of the computer science department faculty and at least one non-COSC faculty member. The standards that this committee should consider when recommending programs of study are outlined in the following sections.

Coursework Requirements:

A total of at least 72 credit hours must be completed. A minimum of 42 of these credit hours must be taken as coursework, including the CORE and BREADTH REQUIREMENTS. A minimum of 12 hours of COSC5980 - Dissertation Research must be taken. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 12 hours of 4000-level courses, may be included with the approval of the supervising Ph.D. committee. All course requirements MUST be completed or enrolled with satisfactory midterm progress prior to scheduling the Ph.D. Final Examination.

UW Coursework Requirements for Ph.D. Transfer Students:

Ph.D. transfer students must complete at least 24 credit hours at the University of Wyoming. At least 12 credits of the CORE and BREADTH REQUIREMENTS must be taken at the University of Wyoming. No more than one class per category of breadth may be counted towards this 12-credit total. The algorithms course credits may be counted toward this 12-credit total.

Program:

A program of original and innovative research will be undertaken by the candidate. At the end of this program, the candidate will document this research in a dissertation. The dissertation will present the details and results of the candidate's research in addition to providing a critical comparison with relevant previously-published works.

Each successful doctoral student must pass three examinations. These include a qualifying examination, a preliminary examination, and a final (dissertation) defense.

Qualifying Exam Criteria:

The student must complete the CORE REQUIREMENT and pass a closed oral examination on a research area administered by the supervising committee. Although closed to the public, faculty members of the Department of Computer Science are welcome to attend. The exam must be announced to the faculty at least two weeks in advance. The research area will be chosen in consultation with the committee. The student must demonstrate background knowledge of the state of the art in the area and preliminary work. This will involve, but is not limited to, presenting material and answering questions covering the relevant area knowledge. The format of the exam will be defined by the committee prior to the exam to allow for sufficient preparation. This examination is intended to motivate the candidate to review relevant literature extensively prior to pursuing the original and innovative portions of the research. Qualifying exam criteria must be completed within the first two years of enrollment in the Ph.D program. If the student does not pass the qualifying exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass. The closed oral examination requirement may be waived for a student who has completed an M.S. degree in COSC at UW if their M.S. presentation was at a research level that demonstrated background knowledge of the state of the art in the area, at the discretion of the supervising Ph.D. committee.

Preliminary Exam Criteria:

Prior to scheduling the Preliminary Examination, the student must be making satisfactory progress towards completion of their course requirements, including the BREADTH REQUIREMENTS. A Preliminary Examination will consist of a presentation and defense of the alreadycompleted portion of the dissertation research and the research that is proposed to complete the dissertation. The Preliminary Examination must be open and announced at least two weeks in advance. The preliminary examination must be completed within two years of enrollment in the Ph.D program (within three years of enrollment for students who do not have an M.S. degree). This examination is intended to motivate the candidate to make significant progress on work towards their Ph.D. dissertation and propose milestones for completion. If the nature of the proposed continued research and methodology is deemed to be sufficiently original and innovative by the supervising committee, then the committee will approve the research direction after having administered this examination. If the student does not pass the preliminary exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Option for M.S. degree en route to Ph.D.:

After completing the Qualifying Exam and Preliminary Exam, a Ph.D. student may additionally earn an M.S. degree after completing the remaining M.S. course requirements, including the BREADTH REQUIREMENTS. COSC 5980 may be substituted for COSC 5960 in the M.S. requirements at the discretion of the supervising committee. The M.S. degree will be granted only after completion of the preliminary exam. For an M.S. degree to be granted prior to completion of the preliminary exam, the student should enroll in the M.S. degree program and complete the remaining M.S. requirements.

Final Exam Criteria:

Prior to scheduling the Ph.D. Final Examination (often referred to as a "defense"), all course requirements, including the BREADTH REQUIREMENTS, MUST be completed or enrolled with satisfactory midterm progress. The Final Examination (dissertation defense) will consist of an oral presentation by the candidate of his/her research and the results that were derived. At this examination, the candidate is expected to defend the research as being original and contributory to the discipline of computer science. The Final Examination must be open and announced at least two weeks in advance. The dissertation must be distributed to the supervising committee at least two weeks in advance of the Final Examination. If the student does not pass the final exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Time to degree for part-time students:

Exceptions to the completion deadlines for the Qualifying Exam and Preliminary Exam may be made for part-time students at the discretion of the supervising committee.

Computer Science Core Requirements

COSC5110 - Analysis Of Algorithms must be completed with a grade of B or better. A grade of B- is not sufficient. Students are strongly encouraged to take COSC 5110 the first time it is offered after enrollment.

Computer Science Breadth Requirements

Students must earn a grade of B or better in one class from the Theory category, one class from the Artificial Intelligence category, and two classes from the Systems category. A grade of B- is not sufficient. Thus there must be 12 credits taken to satisfy the breadth requirement. A list of courses in each category is available from the Department. Although some courses may be listed under multiple categories, a course may only count once towards the breadth requirement.

Program Specific Degree Requirements

Summary of Credit Requirements

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits:12
- Additional courses Credits: 27

- COSC 5960 - Thesis Research Credits: 1-12
  OR
- COSC 5980 - Dissertation Research Credits: 1-12

- Other credits (may include courses or COSC 5960/COSC 5980) Credits: 18

Total Credits: 72 Hours

Electrical Engineering, M.S.

Designed to teach cutting-edge skills needed to excel, whether students enter the workforce or continue onto a PhD. Foci include: Computer Vision, Controls, Elec. Energy Systems, IoT, AI, and Robotics and Signal Processing.

Plan A (Thesis)

This is a minimum 30 credit hour program, 26 hours coursework and 4 hours of thesis

- Minimum 16 Course Hours in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hours in Formal Course Work outside the Electrical and Computer Engineering Department approved by the student's committee
- 7 Additional Formal Course Hours in or out of the Electrical and Computer Engineering Department
- 4 credits of MS thesis research

- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Of the above credit hours in formal coursework, no more than 12 credit hours can be 4000 level

The candidate must meet the minimum requirements for the Master of Science degree and also complete and defend a master's thesis.

Plan B (with Paper)

This is a 30 hour program:

- Minimum 18 Course Hrs in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hrs in Formal Course Work outside the Electrical and Computer Engineering Department
- 9 Additional Formal Course Hrs in or out of the Electrical and Computer Engineering Department
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Plan B (Coursework Only)

This is a 30 hour program:

- Minimum 18 Course Hrs in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hrs in Formal Course Work outside the Electrical and Computer Engineering Department
- 9 Additional Formal Course Hrs in or out of the Electrical and Computer Engineering Department
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Of the above credit hours in formal coursework, no more than 12 can be 4000 level.

Electrical Engineering, Ph.D.

Trains students to conduct research on innovative topics using cutting-edge tools and resources. Areas of foci include: Computer Vision, Controls, Electrical Energy Systems, IoT, AI, and Robotics and Signal Processing.

Degree Requirements

Ph.D. Degree Requirements:

Ph.D. Credit Allocation (all at 4000 level minimum)

- 72 hours (minimum) of acceptable graduate coursework
- 42 hours (minimum) from ECE and closely related formal course work (EE 5980 - Dissertation Research not counting toward this minimum)

Of those 42 hours, no more than 12 hours can be at the 4000 level

Courses required by the department bachelor of science degree may not be applied for graduate credit

- 6 hours (maximum) of EE 4800 - Problems in _____ can be counted for program of study credit
- 6 hours (maximum) of EE 5880 - Problems in ... can be counted for program of study credit
- 9 hours (maximum) of EE 5600 - Statistical Signal Processing in: can be counted for program of study credit.

In addition to the minimum requirements of the university, doctoral students must pass a written and oral comprehensive examination, part of which is a written proposal explaining their planned dissertation research. The student after completing successfully the oral comprehensive examination and before defending the completed dissertation must present their research work at an ECE department seminar. The student must also present and defend a completed dissertation. Programs of study, including coursework and any research tools, are arranged by consultation between the students and their graduate committee.

Certificate

Cybersecurity Certificate

Cybersecurity is the practice of ensuring the confidentiality, integrity, and availability of information within interconnected systems. The certificate in Cybersecurity prepares you for a career securing software-intensive systems.

Requirements

- COSC 2030 - Data Structures Credits: 0
- COSC 4010 - Special Topics in Computer Science Credits: 1-3 (3 credits required for certificate)
- COSC 4760 - Computer Networks Credits: 3
- COSC 3765 - Computer Security Credits: 3
- COSC 4820 - Database Systems Credits: 3
- STAT 2010 Credits: 4

  OR
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

  OR
- STAT 4220 - Basic Engineering Statistics Credits: 3

Minimum Required: 20 Credits

Note: COSC 4760 can also be replaced by the ECE version ECE 4870 or a second COSC 4010 - Special Topics in Computer Science.

QuickStart Program

Electrical and Computer Engineering Quick Start, B.S./M.S.

Enables well-qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter towards both the B.S. and M.S. degrees in EE or CPEN.

Degree Requirements

Up to 6 credit hours from UW, at the 5000-level or above, may be counted toward both the B.S. and M.S. degree programs.

For further information please visit our Web site at
http://www.uwyo.edu/electrical/graduate/prospective/ms/quickstart.html.

Department of Geology and Geophysics

Geography Program

122 Geology Building, (307) 766-3386
Web site: www.uwyo.edu/geography
Program Director: Mark T. Clementz

Professor Emeritus:

John L. Allen, William L. Baker, Ronald E. Beiswenger, Thomas Buchanan, Deborah D. Paulson, Gerald Webster

Faculty and Staff Affiliates:

Professors

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.
THOMAS A. MINCKLEY, B.S. Northern Arizona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.
JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.
BRYAN N. SHUMAN, B.A. Colorado College1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

Associate Professors

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.
NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Associate Professor of Geography and International Studies 2021, 2016.
ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Associate Professor of Geography and International Studies 2021, 2016.

The Geography Program is comprised of faculty from across the University of Wyoming campus with interests and expertise in geography and resource management. The program is transdisciplinary with a focus upon the following:

1.The origin and nature of the physical and cultural environment, how the physical environment and its natural resources form, and how the environment and natural resources affect the quality of life.
2.The ways in which people and institutions affect natural resources and the environment.

3.The ways in which human institutions (e.g. political, economic, social) interact to produce diverse human landscapes.

Learning

The Geography Program has identified four fundamental goals of geography to emphasize in its undergraduate curriculum. These four goals are at the intersection of topically important areas in the discipline of geography. We continue to evaluate student learning in our program to insure our curriculum addresses these fundamental goals as effectively as possible.

Goal 1 - Human-Environment Interaction
Students will be able to identify and explain how humans modify the environment and affect Earth's biophysical systems through their human activities.

Goal 2 - Biophysical Systems
Students will be able to identify and explain an array of patterns, processes, and interactions in Earth's biophysical systems occurring at different spatial scales.

Goal 3 - Human-Cultural Systems
Students will be able to identify and explain an array of patterns, processes, and interactions across Earth's human landscapes at different spatial scales.

Goal 4 - Geographic Thought, Methods and Analysis
Students will understand basic geographic concepts and ideas, and will be capable of using them to inform their work. Students will also demonstrate the ability to select and use appropriate tools and techniques for addressing geographic problems and conducting geographic analysis. They will also be able to use multiple methods to examine, represent, and visualize Earth and its geographic characteristics.

The program offers a concentration in the university's interdisciplinary program, Environment and Natural Resources. A description of the concentration requirements is available online at the ENR website.

Geology and Geophysics

122 Geology Building, (307) 766-3386
FAX: (307) 766-6679
Web site: www.uwyo.edu/geolgeophys
Department Head: Mark T. Clementz

Professors:

MICHAEL J. CHEADLE, B.A. Oxford University 1981; M.S. Cornell University 1984; Ph.D. Cambridge University 1989; Professor of Geophysics 2021, 2001.

MARK T. CLEMENTZ, B.S. University of Missouri, Columbia 1996; Ph.D. University of California, Santa Cruz 2002; Professor of Geology 2017, 2005.

ELLEN D. CURRANO, B.S. University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Geology 2022, 2014.

DARIO GRANA, B.S. University of Pavia 2003; M.S. 2005; M.S. University of Milano Bicocca 2006; M.S. Stanford University 2013; Ph.D. 2013; Professor of Geophysics and the School of Energy Resources 2022, 2013.

BARBARA E. JOHN, B.A. University of California-Berkeley 1978; Ph.D. University of California-Santa Barbara 1987; Professor of Geology 2002, 1992.

JOHN KASZUBA, B.S. Beloit College 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines 1997; Professor of Geology and the School of Energy Resources 2019, 2008.

SUBHASHIS MALLICK, B.S. Indian Institute of Technology 1976; M.S. 1978; Ph.D. University of Hawaii 1987; Professor of Geophysics and the School of Energy Resources 2008.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.

THOMAS A. MINCKLEY, B.S. Northern Ari-zona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.

CLIFFORD S. RIEBE, B.S.E. University of Michigan 1992; Ph.D. University of California-Berkeley 2000; Professor of Geology 2020, 2008.

JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.

BRYAN N SHUMAN, B.A. Colorado College 1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

KENNETH W. W. SIMS, B.A. Colorado College 1986; M.S. University of New Mexico 1989; Ph.D. University of California - Berkeley 1995; Professor of Geology 2014, 2009.

YE ZHANG, B.S. Nanjing University (PR China) 1998; M.S. University of Minnesota 2004; Ph.D. Indiana University 2005; Professor of Geology 2018, 2007.

Associate Professors:

PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; Associate Professor of Geophysics and the School of Energy Resources 2014, 2008.

KENNETH G. DUEKER, B.A. Whitman College 1984; Ph.D. University of Oregon 1994; Associate Professor of Geophysics 2006, 2000.

ANDREW PARSEKIAN, B.S. Dickinson College 2005; Ph.D. Rutgers University 2011; Associate Professor of Geophysics 2020, 2013.

Assistant Professors:

JOSEPH BIASI, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

MADELINE J. LEWIS, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

JAMIE MCFARLIN, B.A. Lawrence University, 2009; M.S. Northwestern University, 2016; Ph.D. Northwestern University, 2019; Assistant Professor of Geology 2022.

Research Scientists:

BRADLEY CARR, B.S University of Wisconsin-Madison 1987; Ph.D. University of Wyoming 1995; Associate Research Scientist Senior of Geophysics 2017, 2013.

KEVIN R. CHAMBERLAIN, B.A. Colgate University 1979; Ph.D. Washington University 1990; Research Professor of Geology 2004, 1990.

JANET C. DEWEY, B.S. Mississippi State University 1990; M.S. Auburn University 1993; Associate Research Scientist of Geology 2017, 2011.

LAURA VIETTI, B.S. University of Wyoming 2006; Ph.D. University of Minnesota 2014; Assistant Research Scientist of Geology 2015.

Lecturers:

ERIN E. KLAUK, B.S. Buffalo State University 2001; M.S. Montana State University 2007; Assistant Lecturer of Geology 2023

Adjunct Professors:

Sarah Aciego, Vladmir Alvarado, Tyler Brown, Erin Campbell, Barbara Carrapa, Jay Chapman, Carrick Eggleston, Eric Erslev, Peter H. Hennings, W. Steven Holbrook, Ranie Lynds, Beth McMillan,

Professors Emeriti:

James I. Drever, William E. Frerichs, B. Ronald Frost, Carol D. Frost, Robert R. Howell, Neil F. Humphrey, Jason A. Lillegraven, Ronald W. Marrs, Randi Martinsen, James E. McClurg, James D. Myers, Scott B. Smithson, Arthur W. Snoke, Ronald C. Surdam, Susan M. Swapp

Geology is the study of the origin, history and structure of the earth. Our undergraduate offerings encompass virtually every aspect of the science, with emphasis on current theory, methods, and applications. The philosophy of the department is to provide sound training in both theory and field observation, and to couple this background with a thorough education in modern laboratory, quantitative, and field techniques required for an understanding of geologic processes.

The setting of the university in the Rocky Mountains is ideal because some of North America's most outstanding geologic features are within a short drive of campus. The semiarid climate in Wyoming has resulted in excellent exposures of diverse rock types ranging in age from Precambrian to Recent. Deformation of the rocks in the region has been extensive, affording the student a field laboratory that exhibits a wide diversity of styles of faulting and folding. Mineral deposits, petroleum resources, and coal abound in the region.

Undergraduate Majors

The Bachelor of Science in geology is designed for those students who intend to become professional geologists and/or those who plan to attend graduate school in geosciences. The program includes courses normally expected of graduate school applicants, including a summer field camp and courses in related sciences and mathematics. This degree program prepares students for the examination for the professional geologist license.

The Bachelor of Arts in geology and Earth sciences is specifically designed for undergraduates who wish to study Earth sciences as a foundation for careers in a variety of areas, such as environmental law, natural resource business, land use planning, Earth science education, science journalism, and many governmental positions. The B.A. program includes a broad spectrum of courses, and focuses both on information about the Earth and on how society makes decisions that affect the Earth system.

The Bachelor of Science in Environmental Geology and Geohydrology is designed for those students who intend to become professionals in environmental fields such as consulting, site assessment, hazard assessment, and remediation. The degree will prepare students for graduate school in environmental disciplines and for entry-level jobs.

Majors in any of the degree programs above may also choose to declare an affiliated degree with the School of Environment and Natural Resources by completing degree requirements for both degrees. Students should consult the section on the School of Environment and Natural Resources.

The Department of Geology and Geophysics also participates in the Earth System Science interdisciplinary program by offering a concentration in geology for the B.S. degree in ESS. Students interested in this major should consult the section on Earth System Science for curriculum requirements.

Geology Program Objectives: Bachelor of Science

The primary mission of our B.S. geology program is to provide a quality educational experience that prepares men and women to enter careers in geology and related fields. We expect that our graduates should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science.
• Be able to apply basic scientific and technical knowledge to specific tasks and problems.
• Cultivate the specific scientific and technical skills that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity in the skills of independent learning, critical thinking, problem definition, and problem solving.
• Develop enhanced numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in their workplace and in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Science

The department of Geology and Geophysics has the following specific goals for its B.S. program:
• Students in the B.S. program will receive a quality preparatory education in the discipline that is current, relevant, practical, and personal.
• B.S. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.S. students who graduate with appropriate grades will be well prepared for entry-level positions as professionals within their and other related disciplines.

Geology Program Objectives: Bachelor of Arts

The primary mission of our B.A. geology program is to provide a broad educational experience that prepares men and women for careers in earth science-related fields. We expect that our graduate should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science-related fields.

• Be able to apply their knowledge to specific situations or problems.
• Cultivate the skills and ethics that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity for independent learning, critical thinking, and problem-solving.
• Develop basic numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in the work environment, both in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Arts

The department of Geology and Geophysics has the following specific goals for its B.A. program:
• Students in the B.A. program will receive a broad preparatory education in earth science and related fields that is current, relevant, practical, and personal.
• B.A. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.A. students who graduate with appropriate grades will be well prepared for entry-level positions in the geosciences and other related disciplines.

Required Academic Performance

In order to graduate with a Bachelor of Science or Bachelor of Arts degree in geology, the student must earn a letter grade of C (S where appropriate) or better in each course listed herein as part of the required course programs. This grade requirement applies to course work taken outside the department, as well as to transfer courses credited in lieu of resident requirements.

Undergraduate Minor

A minor in geology requires 18 hours of coursework in the Department of Geology and Geophysics. Students are required to take one GEOL 1000-level course; one GEOL 2000-level course; and fulfill remaining hours with GEOL 2000-level or higher courses in consultation with their adviser. A grade of C or better is required in each of these courses.

Graduate Study

The department offers instruction and research programs leading to master of science and doctor of philosophy degrees in both geology and geophysics and to the master of science in geology/water resources.

Program Specific Admission Requirements

All applicants must complete an online departmental application form with statement of intent. Forms are available from the Department of Geology and Geophysics Web site at www.uwyo.edu/geolgeophys.

Application deadline is January 15 of each year.

All applicants should have completed undergraduate coursework including mathematics through calculus, one year of chemistry, basic training in geology, and for most areas, one year of calculus-based physics.

Applicants to the geophysics graduate program should have an undergraduate degree in geophysics, geology, mathematics, physics, or engineering.

Applicants to the Ph.D. program, without a M.S. degree, must have attained an exceptional undergraduate record.

Formal approval of application by the departmental admissions committee.

Formal acceptance by an adviser.

Formal notice of admission by the university.

Program Specific Graduate Assistantships

All applicants to the geology and geophysics graduate program are considered for assistantships. Applicants are NOT required to complete the graduate assistant application form.

Program Specific Degree Requirements

Master of Science in Geology

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Master of Science in Geophysics

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Doctor of Philosophy in Geology (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Doctor of Philosophy in Geophysics (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Master of Science in Geology/Water Resources and Master of Science in Geophysics/Water Resources

Please refer to the Water Resources section of the *Catalog* for degree requirements.

Major

Environmental Geology and Geohydrology, B.S.

The Environmental Geology and Geohydrology degree is intended for students interested in becoming professionals in environmental fields and will prepare students for graduate school and careers in environmental disciplines.

Degree Requirements

This degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

One of the Following:

- GEOL 1005 - Earth History Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1200 - Historical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

And Each of the Following:

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GEOL 4140 - Diversity Inclusion Geoscience Credits: 1
  (OR 1 course with an ASD-Diversity or ASG-Global Awareness Attribute)
- GEOL 4444 - Geohydrology Credits: 4
- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4777 - Geochemistry of Natural Waters Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3
- GEOL 4820 - Capstone Credits: 3

Required Allied Math and Science Courses

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
  OR
- PHYS 1210 - Engineering Physics I Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4

One of the Following:

- LIFE 1010 - General Biology Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- MATH 2210 - Calculus III Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Additional Electives

Additional 18 credit hours of Electives, in consultation with advisor

- GEOL 2005 - Intro to Geophysics Credits: 4
  OR
- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3450 - Weather and Climate Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3550 - Natural Hazards and Society Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOL 4441 - Advanced Climate Variability Credits: 3
- GEOG 4460 - Biogeography Credits: 3
- GEOL 4525 - Environmental Data Analysis Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4

Note:

Students are encouraged, in consultation with their adviser, to design a major that best fits their interests and goals. With this in mind, there are many courses outside the Department of Geology and Geophysics that may be substituted for courses in the Electives (B) list above provided that such substitutions are made with the consent of an adviser. A list of such courses may be obtained from the Department. Students who seek the Geology BS may not also seek EGGH as a double major, and vice versa.

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements.

Geography, B.S.

A Geography B.S. offers students interdisciplinary training to understand phenomena across a range of scales to critically solve grand challenges that intersect science, nature, culture, economy, politics, and technology.

Degree Requirements

This degree requires **120** credits, **42** of which are upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Core Requirements (9-11 credits)

- GEOG 1000 - World Regional Geography Credits: 3

  OR
- GEOG 1020 - Introduction to Human Geography Credits: 3

- GEOG 1010 - Introduction to Physical Geography Credits: 3

  OR
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

- GIST 1200 - Geospatial Foundations Credits: 3

  OR
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Content Areas (26 Credits)

Breadth: Complete a minimum of ONE course from THREE of the four content areas.

Depth: Complete a minimum of TWO courses from TWO of the four content areas.

Remaining credits to reach 26 in consultation with academic advisor (~13-15 credits).

Human Geography Content

- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4013 - Political Geography Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- GEOG 4560 - Global Cities Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3
- GEOG 4590 - Geography of Conflicts Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3

Physical Geography Content

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3

- GEOG 3450 - Weather and Climate Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4450 - Fluvial Geomorphology Credits: 4
- GEOG 4460 - Biogeography Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 4880 - Earth Surface Processes Credits: 3

Geographic Information Science (GIS) Content

Accepting any 3-4 credit GIST course in this category.

Transdisciplinary Content

- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4590 - Geography of Conflicts Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- INST 3860 - World Food, Ag, & Development Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4580 - Gender, Global Change, and Development Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ZOO 4440 - Limnology Credits: 3

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements.
- At least 15 credits of completed program requirements should be at the upper division level.
- Sophomore year: Students are encouraged to discuss study abroad opportunities with their advisor, mentor, and study abroad office.

Geology and Earth Science, B.A.

The B.A. in Geology and Earth Science provides students with a broad educational experience in preparation for careers in earth science-related fields.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

Each of the following:

- GEOL 1000-level intro lab course(s) Credits: 4-8
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 4820 - Capstone Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- MATH 1405 - Trigonometry Credits: 3

  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5

Six Courses from the Following

- ATSC 2000 - Introduction to Meteorology Credits: 4

  OR
- GEOG 3450 - Weather and Climate Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOL 2005 - Intro to Geophysics Credits: 4

  OR
- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 2050 - Principles of Paleontology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 4444 - Geohydrology Credits: 4

- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4835 - Applied/Exploration Geophysics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ECON 4400 - Environmental Economics Credits: 3

  OR
- ECON 4410 - Natural Resource Economics Credits: 3

Additional Electives

Additional 12 hours of electives with adviser consultation, at least 6 hours of which must be taken outside of the Department of Geology and Geophysics.

Geology, B.S.

A Geology B.S. provides students scientific and technical skills via hands-on courses, field, and lab experiences to develop critical economic and environmental solutions for use in graduate programs and professional careers.

Degree Requirements

This degree requires **120** credits, **42** of which must be upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

Note: This program represents a minimum proficiency. Students are strongly advised to elect additional courses in geology.

One of the Following:

- GEOL 1005 - Earth History Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1200 - Historical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

And Each of the Following:

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

- GEOL 2005 - Introduction to Geophysics Credits: 4
  OR
- GEOL 3005 - Principles of Geophysics Credits: 4

- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GEOL 4140 - Diversity Inclusion Geoscience Credits: 1
  (OR 1 course with an ASD-Diversity or ASG-Global Awareness Attribute)
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4717 - Field Course in Geology Credits: 1-8
  (6 credits of offered field camp courses are required, to be taken in 1 of the last 2 summers on campus).
- GEOL 4820 - Capstone Credits: 3

Geology Electives

Additional 22 credit hours in Geology courses at 2000-level and above:

Allied Math and Sciences Credits

- CHEM 1020 - General Chemistry I Credits: 4
  OR
- CHEM 1050 - Advanced General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
  OR
- CHEM 1060 - Advanced General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
  OR
- PHYS 1210 - Engineering Physics I Credits: 4

Option A: Fundamental Math

- GEOL 2120 - Quantitative GeoMethods Credits: 3
  AND
- MATH 2200 - Calculus I Credits: 4

Option B: Advanced Math

- MATH 2200 - Calculus I Credits: 4
  AND
- MATH 2205 - Calculus II Credits: 4
  OR
- MATH 2250 - Elementary Linear Algebra Credits: 3
  OR
- GEOL 4250 - Mathematical Geosciences Credits: 3
  OR
- GEOL 4525 - Environmental Data Analysis Credits: 4

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements

Minor

Geography Minor

The Minor in Geography program provides students with foundational knowledge in geography while allowing them to focus on the areas of physical geography, human geography, and natural resource management.

Core Content (10 Credits)

Each of the following:

- GEOG 1010 - Introduction to Physical Geography Credits: 3
  OR
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

- GEOG 1000 - World Regional Geography Credits: 3
  OR
- GEOG 1020 - Introduction to Human Geography Credits: 3

- GIST 1200 - Geospatial Foundations Credits: 3
  OR

One Course from each of the following 2 areas (9 Credits)

Human Geography

- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4013 - Political Geography Credits: 3

- GEOG 4500 - The American Landscape Credits: 3
- GEOG 4502 - Images of Wyoming and the West Credits: 3
- GEOG 4550 - Geography of Wine Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3

Physical Geography

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- GEOG 4450 - Fluvial Geomorphology Credits: 4
- GEOG 4460 - Biogeography Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3

3 Credits in Geography electives

GEOG coures 1000-6000 level

Geology Minor

A minor in geology is intended for those students majoring in other programs who are interested in complementing their degree with a broader understanding of geology and the earth sciences.

Required Courses

Students are required to take 18 hours of coursework in the Department of Geology and Geophysics including one GEOL 1000-level course (3-4); one GEOL 2000-level course (3-4); **and fulfill the remaining credit hours (10-12) with GEOL 2000-level or higher courses in consultation with their adviser.** A grade of C or better is required in each of these courses.

- GEOL 1005 - Earth History Credits: 4

  OR another 1000-level GEOL course **Credits / Units:** 3-4
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

  OR another 2000-level GEOL course **Credits / Units:** 3-4

  AND fulfill remaining credits with 2000-level or higher GEOL courses in consultation with thier adviser. **Credits / Units:** 10-12

Graduate

Geology, M.S.

Plan A (Thesis)

(26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 - Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Geology, Ph.D.

(42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 - Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Geophysics, M.S.

Plan A (Thesis)

(26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 - Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Geophysics, Ph.D.

(42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 - Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Department of Mathematics and Statistics

Mathematics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats/
Department Head: Jason Williford

Professors:

GABRIELLE ALLEN, B.S. University of Nottingham 1988; M.S. University of Cambridge 1989; Ph.D. Cardiff University 1993; Professor of Mathematics 2020.

CRAIG C. DOUGLAS, B.A. University of Chicago 1977; M.S. Yale University 1978; M.Phil. 1981; Ph.D. 1982; SER Professor of Mathematics 2008.

VICTOR GINTING, B.S. Institut Teknologi Bandung Indonesia 1995; M.S. Texas A&M University 1998; Ph.D. 2004; Professor of Mathematics 2017, 2007.

STEFAN HEINZ, B.S. Humboldt University 1985; M.S. 1986; Ph.D. Heinrich-Hertz Institute 1990; Professor of Mathematics 2013, 2004.

LONG LEE, B.S. National Taiwan University, Taipei 1988; M.A. University of Maryland 1998; Ph.D. University of Washington 2002; Professor of Mathematics 2018, 2005.

RONGSONG LIU, B.A. Henan Normal University 1999; M.A. Fudan University 2002; Ph.D. York University 2006; Associate Professor of Mathematics and Program in Ecology 2015, 2009.

G. ERIC MOORHOUSE, B.S. University of Toronto 1980; M.S. 1984; Ph.D. 1987; Professor of Mathematics 2011, 1989.

ZHUANG NIU, B.S. Wuhan University 1998; M.S. 2001; Ph.D. University of Toronto 2005; Associate Professor of Mathematics 2021, 2012.

BRYAN L. SHADER, B.S. University of Wyoming 1984; M.S. University of Wisconsin-Madison 1987; Ph.D. 1990; Professor of Mathematics 2000, 1990.

JASON WILLIFORD, B.A. University of Pennsylvania 1998; Ph.D. University of Delaware 2004; Associate Professor Mathematics 2014, 2009.

Associate Professors:

MICHELLE T. CHAMBERLIN, B.S. Colorado State University 1997; M.S. 1999; Ph.D. Purdue University 2002; Associate Professor of Mathematics 2012, 2007.

FREDERICO da CUNHA FURTADO, B.S. Federal University of Minas Gerais 1979; M.S. Federal University of Rio de Janeiro 1984; Ph.D. Courant Institute 1989; Associate Professor of Mathematics 2002, 1997.

TYRRELL McALLISTER, B.S. University of California, Davis 2001; Ph.D. 2006; Associate Professor of Mathematics 2015, 2009.

DAN STANESCU, B.Eng. Polytechnic Institute, Romania 1986; M.Eng. McGill University, 1994; Ph.D. Concordia University 1999; Associate Professor of Mathematics 2008, 2003.

MAN-CHUNG YEUNG, B.S. Jinan University, China 1986; M.Ph. University of Hong Kong 1990; Ph.D. University of California-Los Angeles 1997; Associate Professor of Mathematics 2005, 2001.

Assistant Professor:

DANE TAYLOR, B.S. University of Wyoming 2008, Ph.D. University of Colorado Boulder 2013, SoC Assistant Professor of Mathematics 2023.

PING ZHONG, B.S. Huanzhong University 2005; M.S. Peking University 2008; Ph.D. Indiana University 2014; Assistant Professor of Mathematics 2018.

Senior Lecturers:

DAVID ANTON, B.S. North Dakota State University 2001; M.S. University of Wyoming 2007; Senior Lecturer in Mathematics 2017, 2005.

WILLIAM WEBER, B.S. Colorado State University 1979; B.S. University of Wyoming 1988; M.S. 1992; Senior Lecturer in Mathematics 2012, 2001.

Associate Lecturer:

NATHAN CLEMENTS, B.S. Brigham Young University-Idaho 2007; M.S. Idaho State University 2009; D.A. 2012; Associate Lecturer in Mathematics 2019, 2012.

Assistant Lecturer:

CHRISTINA G. KNOX, B.S. California State Polytechnic University, Pomona 2012; M.S. 2014; Ph.D. University of California, Riverside, 2019; Assistant Lecturer of Mathematics 2019.

JORGE FLORES-MATUTE, B.S. Chadron State College 2015; M.S. University of Wyoming 2018; Assistant Lecturer of Mathematics 2020.

CEDAR WISEMAN, B.S. University of Wyoming 2017; M.S. University of Wyoming 2020; Assistant Lecturer of Mathematics 2022.

Adjunct Professors:

Saman Aryana, Hakima Bessaih, Li Deng Douglas, George Elliot, Benedetta Ferrario, Maria Garrido-Atienda, John Hitchcock, Robert Kansky, David Meyer, Bjorn Schmalfuss, Gerald Schuster, Dongwoo Sheen

Professors Emeriti:

Charles Angevine, Leonard Asimow, Robert Buschman, Benito M. Chen-Carpentier, George C. Gastl, John H. George, Sylvia A. Hobart, Syed Husain, Peter Polyakov, A. Duane Porter, Ben G. Roth, John Rowland, Chanyoung Lee Shader, Raymond Smithson, John Spitler, Myron B. Allen III, Farhad Jarari.

> **"For the things of this world cannot be made known without a knowledge of mathematics."--Roger Bacon**

Virtually every student at UW will take one or more math courses to fulfill graduation requirements. The intent is to illustrate the esthetics inherent in mathematics, and to provide students with the quantitative skills needed for today's careers.

Mathematics majors receive a broad and deep view of the mathematical sciences. They develop their mathematical thinking and communications skills in algebra, analysis, and applied math. They learn a variety of technological tools necessary for jobs in education, business, government, and industry. In addition to our math classes, the department offers a variety of opportunities to enrich the undergraduate experience. Students can participate in weekly seminars, summer research projects, Putnam Team competitions, and the math club.

Mathematics Placement

All UW math courses have prerequisites which are detailed in the course listings below. These are to assure that each student has the best possible opportunity for success in the course. In accordance with this, *all students registering for a math course will have their records checked in order to determine whether the prerequisite is satisfied.*

A computerized prerequisite check is run prior to the start of every semester. *Students who preregistered for a math course but have not satisfied the prerequisites at the time of the check will be automatically dropped from the course.*

Prerequisites for courses numbered 2200 or lower (except MATH 1105 and MATH 2120), and MATH2350 - Business Calculus, may be satisfied in one of four ways:

- Obtain a grade of C or better in a prerequisite course. Note that noncredit courses from out-of-state colleges are not accepted as prerequisites.
- Pass the Mathematics Placement Exam (MPE) at the stated level within one year of the start of the course.
- Obtain a sufficiently high score on one of the following standardized exams within three years of the start of the course: ACT math score or SAT quantitative score.
- Obtain a sufficiently high score on one of the following standardized exams: AP Calculus, CLEP, or IB.

Duplication of Courses (MATH 1400, MATH 1405, MATH 1450)

To avoid loss of credit because of duplication of course content, please note the following: (a) students with credit for both MATH 1400 and MATH 1405 will not receive new credit by taking MATH 1450; (b) students with credit for one of MATH 1400 or MATH 1405 will receive only 2 additional credits by taking MATH 1450; (c) students with credit for MATH 1450 will receive only 1 additional credit by taking both MATH 1400 and MATH 1405. Note that the GPA calculation for these situations is unusual, and students should ask the Registrar's Office for details.

Note that MATH 1450 counts as one attempt at each of MATH 1400 and MATH 1405 for the purposes of repeating classes.

Graduate Study

The Mathematics Program offers programs leading to the degrees of master of arts, master of science, master of arts in teaching, master of science in teaching, and the doctor of philosophy.

The requirements for these degrees reflect our belief that mathematicians should have a broad foundation in the core areas of algebra, analysis, and applied mathematics as well as the experience of a more intensive investigation of a specialized area. We provide this within a flexible structure that recognizes the individual interests and varied backgrounds of our students.

Program Specific Admission Requirements

To be competitive for admission, applicants must have strong backgrounds in mathematics. Generally, this means a bachelor's degree in mathematics or a closely related discipline. All applicants should have substantial coursework beyond the calculus sequence; courses in differential equations, linear algebra, and, in particular, courses in abstract algebra and analysis are highly recommended. A solid performance on the GRE Subject Test in Mathematics can demonstrate the applicant's mastery of these subjects. The GRE Subject Test in Mathematics is therefore recommended but is not required.

The GRE General Test is required, with a minimum Quantitative Reasoning score of 157 and Verbal score of 143. International applicants need a composite TOEFL score of 76 or an IELTS score of 6.5.

ETS only reports TOEFL scores taken within two years of the date of request.

Graduate Assistantships

The mathematics program employs approximately 22 graduate assistants each year. Assistantships include a full tuition and fee waiver, a monthly living stipend, and health insurance. Ph.D. students normally receive a higher stipend than master's students.

Teaching assistants teach or assist with the teaching of an undergraduate course each semester.

Students may also compete for research assistantships, provided that their interests align with an externally funded research project.

Summer support is not guaranteed but is usually available through teaching and research opportunities.

Statistics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats
Program Director: Tim Robinson

Professors:

TIMOTHY J. ROBINSON, B.S. James Madison University 1989; M.S. Virginia Tech 1994; Ph.D. 1997; Professor of Statistics 2012

SHAUN S. WULFF, B.S. Montana State University 1991; M.S. 1994; Ph.D. Oregon State University 1999; Professor of Statistics 2019, 1999.

Assistant Professors:

MARIE-AGNES S. TELLIER, B.S. Florida Institute of Technologies 2000; MS Florida Institute of Technology 2002; M.S. University of Wyoming 205; Ph.D. University of Wyoming 2018; Assistant Professor of Statistics 2023.

Assistant Lecturer:

MICHELE BIRD, B.A. University of Nevada, Las Vegas 1996; M.A. 2000; Assistant Lecturer of Statistics 2019.

JARED STUDYVIN, B.S University of Wyoming 2009; Ph.D. University of Wyoming 2015; Assistant Lecturer 2021.

Adjunct Professors:

Emeriti Faculty:

Stephen L. Bieber, Burke Grandjean, Richard Anderson-Sprecher, Kenneth Gerow

The curriculum in statistics includes a firm foundation in mathematics and computer science, in addition to course work in statistical theory and methodology. Graduating statistics majors at the University of Wyoming are expected to demonstrate the ability to identify and utilize appropriate statistical methods for finding data-driven solutions to a wide variety of real-life and scientific questions. In order to demonstrate these abilities, the graduating Statistics major must be trained in statistical theory, computational techniques and courses which emphasize the use of statistical methods in problem solving.

Statistical Theory

A strong background in statistical theory is crucial for a practicing statistician. It is the primary aspect that separates the consultant from the client. More specifically, it allows a statistician to generalize statistical procedures, formulate models (and associated assumptions), perform advanced statistical computation, and formalize interpretation of results. The statistical theory prerequisites are notably covered in the undergraduate courses STAT 4255 (Mathematical Theory of Probability), STAT 4265 (Introduction to the Theory of Statistics), and MATH 2250 (Elementary Linear Algebra).

Computation Techniques

The professional field of Statistics is highly computational. Associated computational skills involve coding, debugging, and programming beyond just class scripts provided to students in the undergraduate courses. The open-source R environment is primarily used in the graduate courses due to its popularity, availability, and capabilities (both statistical functions and programming). Thus, students are expected to have basic R program skills related to data management, statistical functions, and post-processing of output. These R based skills are covered in all of the upper division courses, particularly core courses such as 4015 (Regression Analysis), STAT 4025 (Design and Analysis of Experiments I), and 4045 (Categorical Data Analysis). The STAT 4015 and 4025 courses should be taken as soon as possible in the curriculum as these courses provide foundational content for nearly all of the upper division Statistics courses.

Interpretation of Results

An important aspect of applied statistics is to be able to interpret results of statistical analyses and express those interpretations clearly, accurately, and technically. Thus, these interpretations need to be in line with statistical theory (inference) and yet be clearly expressed to both statisticians and applied scientists. Thus, the undergraduate Statistics graduate is expected to be familiar with the statistical interpretation of results from the applied statistical courses, so that they can better understand the rationale underlying formal statistical interpretation and to develop the required skills to provide such interpretations independently.

University of Wyoming Statistics majors experience excellent job and/or graduate school placement. Our graduates have taken positions n industry, government, the sciences (social, biological, physical, and health), as well as engineering and education.

The statistics program also offers graduate programs leading to a graduate minor in statistics, and to a Master of Science (Plan B) in statistics.

Graduate Study

The Statistics Program offers graduate programs leading to a graduate minor in statistics, and to a master of science in applied statistics (Plan B). The minor is designed to enhance the M.S. or Ph.D. program of any student enrolled in one of the graduate programs at the University of Wyoming. All of these programs emphasize the understanding and application of a broad variety of statistical methods on real projects. Students will be provided with numerous opportunities to perform analyses and communicate findings. The MS Statistics program is specifically designed to prepare students to be effective statistical consultants and data scientists.

Program Specific Admission Requirements

The prerequisite for admission to graduate study is an undergraduate degree from an accredited institution, including work in mathematics through calculus III, Linear Algebra and at least one second-level class in statistical methods. Prospective students are encouraged to have had Math Analysis and upper level introduction to probability and mathematical statistics. Students who do not have prerequisites in mathematics and statistics may make up this deficiency at the beginning of their graduate program; however, such work does not count toward graduation requirements.

Major

Mathematics, B.A.

A comprehensive math degree with training in the fundamentals of proofs, analysis, algebra, computation and math modeling. Provides a strong background for teaching, work in industry and graduate programs in math.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

These courses, known as the transition courses, introduce students to the three main areas of mathematics research currently represented in the department.

At the upper division, all mathematics majors must take:

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
- MATH 3340 - Introduction to Scientific Computing Credits: 3

Depth Course

Every mathematics major must select one course that builds on the corresponding transition course. This sequence provides the student with an opportunity to study one of these areas in greater depth.

- MATH 4200 - Analysis 2: Advanced Analysis Credits: 3
  OR
- MATH 4205 - Analysis 3: Undergraduate Topics in Analysis Credits: 3
  OR
- MATH 4510 - Algebra II: Introduction to Group Theory Credits: 3
  OR
- MATH 4520 - Algebra III: Topics in Abstract Algebra Credits: 3
  OR
- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3
  OR
- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3

Upper Division Math Courses

Finally, an additional 15 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Mathematics, B.S.

A comprehensive math degree with training in the fundamentals of proofs, analysis, algebra, computation and math modeling. Provides a strong background for teaching, work in industry and graduate programs in math.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

These courses, known as the transition courses, introduce students to the three main areas of mathematics research currently represented in the department.

At the upper division, all mathematics majors must take

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
- MATH 3340 - Introduction to Scientific Computing Credits: 3

Depth Course

Every mathematics major must select one course that builds on the corresponding transition course. This sequence provides the student with an opportunity to study one of these areas in greater depth.

- MATH 4200 - Analysis 2: Advanced Analysis Credits: 3

  OR
- MATH 4205 - Analysis 3: Undergraduate Topics in Analysis Credits: 3

OR

- MATH 4510 - Algebra II: Introduction to Group Theory Credits: 3

OR

- MATH 4520 - Algebra III: Topics in Abstract Algebra Credits: 3

OR

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

OR

- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3

Upper Division Math Courses

Finally, an additional 15 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Statistics, B.S.

Statisticians (data scientists) provide analytic solutions to scientific problems. Statistics is the process of using data to answer a research question. The B.S. in Statistics is applied with some theory.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

30 Hours of Statistics - Required Courses:

- STAT 2050 - Fundamentals of Statistics Credits: 4

- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3
- STAT 4255 - Mathematical Theory of Probability Credits: 3
- STAT 4265 - Introduction to the Theory of Statistics Credits: 3
- STAT 4300 - Applied Multivariate Analysis Credits: 3
- STAT 4870 - Senior Thesis Credits: 3

Optional from (12 Hours)

- STAT 4005 - Data Wrangling Credits:
- STAT 4045 - Categorical Data Analysis Credits: 3
- STAT 4070 - Causal Models Credits: 3
- STAT 4115 - Time Series Analysis and Forecasting Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- STAT 4270 - Applied Bayesian Statistics Credits: 3
- STAT 4350 - Survey Construction and Analysis Credits: 3
- STAT 4360 - Spatial Statistics Credits: 3
- STAT 4370 - Survival Analysis Credits: 3
- STAT 4460 - Statistical Software Credits: 1
- STAT 4880 - Problems in Statistics Credits: 1-4

Mathematics (15 Hours)

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3

Computer Science (6 Hours)

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1030 - Computer Programming Credits: 4

Electives

- Chosen so that at least 42 hours are at the 3000/4000/5000 level

Total Hours: at Least 120

Only grades of C or better will be accepted for the major.

Minor

Mathematics Minor

The minor in mathematics focuses on fundamental aspects of mathematics that are essential for further study in mathematics and a variety of other disciplines. Students may customize the minor by choosing the appropriate transition course and upper-division electives.

Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

- MATH 2250 - Elementary Linear Algebra Credits: 3 **AND**
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the minor.

At the upper division, all mathematics minors must take ONE of

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
  OR
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
  OR
- MATH 3340 - Introduction to Scientific Computing Credits: 3
- as well as 3 additional credits of upper division math courses (3000 and above)

Statistics Minor

Statisticians (data scientists) provide analytic solutions to scientific problems. Statistics is the process of using data to answer a research question. The B.S. in Statistics is applied with some theory. The minor of Statistics is all application.

Requirements

The following courses are required for a statistics minor:
- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3

9 Additional Hours from the Following:

- STAT 4005 - Data Wrangling Credits:
- STAT 4045 - Categorical Data Analysis Credits: 3
- STAT 4070 - Causal Models Credits: 3
- STAT 4115 - Time Series Analysis and Forecasting Credits: 3

- STAT 4155 - Fundamentals of Sampling Credits: 3
- STAT 4255 - Mathematical Theory of Probability Credits: 3
- STAT 4265 - Introduction to the Theory of Statistics Credits: 3
- STAT 4350 - Survey Construction and Analysis Credits: 3
- STAT 4360 - Spatial Statistics Credits: 3
- STAT 4370 - Survival Analysis Credits: 3
- STAT 4300 - Applied Multivariate Analysis Credits: 3

- STAT 4270 - Applied Bayesian Statistics Credits: 3

Total: 18-19 Hours

Only grades of C or better will be accepted for the minor.

Graduate

Mathematics, M.A.

A comprehensive mathematics degree, with training in the fundamentals of analysis, abstract algebra, computation, and mathematical modeling. Provides a strong foundation for teaching, work in industry, and continued study in graduate-level programs.

Common Requirements

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division undergraduate level and is offered before the beginning of each semester.
- Take one hour of the seminar MATH 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970: Professional Development in Teaching.

5000-level Mathematics Courses

As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3
- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Tracks:

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960 - Thesis Research. At least 26 hours of 5000-level coursework must be mathcontent courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty member. The thesis should describe the research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.
- Pass one of the department's qualifying exams in:

Analysis

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

Algebra

- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Applied Mathematics

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3

Mathematics, M.A.T.

Applicants are required to have:

- A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;
- courses equivalent to MATH 3205, MATH 3500, MATH 4000 and MATH 4600;
- a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Mathematics, M.S.

A comprehensive mathematics degree, with training in the fundamentals of analysis, abstract algebra, computation, and mathematical modeling. Provides a strong foundation for teaching, work in industry, and continued study in graduate-level programs.

Common Requirements

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division undergraduate level and is offered before the beginning of each semester.
- Take one hour of the seminar MATH 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970: Professional Development in Teaching.

5000-level Mathematics Courses

As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3
- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Tracks:

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960 - Thesis Research. At least 26 hours of 5000-level coursework must be mathcontent courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty member. The thesis should describe the research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.
- Pass one of the department's qualifying exams in:

Analysis

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

Algebra

- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Applied Mathematics

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3

Mathematics, M.S.T.

Applicants are required to have:

- A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;
- courses equivalent to MATH 3205, MATH 3500, MATH 4000 and MATH 4600;
- a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Mathematics, Ph.D.

A rigorous PhD program in mathematics, culminating in an original research project. Math PhDs have excellent career prospects in a variety of settings, including academia, industry, research, engineering, economics and government.

Mathematics PhD Information

The student must maintain a 3.0 cumulative GPA.

The student must teach two semesters of college mathematics.

The student must complete a combination of 72 hours of coursework and dissertation research. Within the 72 hours, a maximum of 12 hours can be at the 4000 level, and 42 hours must be formal courses at the 5000 level. The courses

must be mathematics courses or courses with significant mathematical content, as approved by the department's graduate committee.

The Student Must Complete

Within the 42 hours of 5000-level courses, the student must:

- Complete the courses distributed in three areas: algebra, analysis, and applied mathematics. The student must take at least two courses in each of two categories and at least one course from the third category. The department maintains a list of course categories.
- MATH 5200 - Real Variables I Credits: 3 with a grade of B or better
- MATH 5230 - Complex Variables I Credits: 3 with a grade of B or better
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3 with a grade of B or better
- MATH 5400 - Methods of Applied Mathematics I Credits: 3 with a grade of B or better
- MATH 5500 - Advanced Linear Algebra Credits: 3 with a grade of B or better
- MATH 5550 - Abstract Algebra I Credits: 3 with a grade of B or better

Take Two Hours of

- MATH 5800 - Seminar in Mathematics Credits: 1-3 -02, and Colloquia

In Addition

In addition, the student must:

- Pass the foundation exam, the qualifying exam in the student's research area, and the preliminary exam.
- Write a dissertation containing the student's original mathematical results and present an oral defense of the research.
- Take one hour of the seminar 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970 - Professional Development in Teaching.

Statistics Graduate Minor

A graduate minor in statistics can be a great way to signal your interest and skill in data analysis as it relates to your field of study.

Requirements

Twelve hours of STAT courses at the 5XXX-level:

- STAT 5005 - Data Wrangling Credits:
- STAT 5015 - Regression Analysis Credits: 3
- STAT 5025 - Design and Analysis of Experiments I Credits: 3
- STAT 5045 - Categorical Data Analysis Credits: 3
- STAT 5115 - Time Series Analysis and Forecasting Credits: 3
- STAT 5155 - Fundamentals of Sampling Credits: 3
- STAT 5210 - Advanced Regression Credits: 3
- STAT 5220 - Advanced Design Credits: 3

- STAT 5230 - Statistic Methods III Credits: 4
- STAT 5240 - Data Mining Credits: 3
- STAT 5255 - Mathematical Theory of Probability Credits: 3
- STAT 5265 - Introduction to the Theory of Statistics Credits: 3
- STAT 5270 - Applied Bayesian Statistics Credits: 3
- STAT 5280 - Models for Hierarchical Data Credits: 3
- STAT 5300 - Applied Multivariate Analysis Credits: 3
- STAT 5350 - Survey Construction and Analysis Credits: 3
- STAT 5360 - Spatial Statistics Credits: 3
- STAT 5370 - Survival Analysis Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- STAT 5490 - Statistical Consulting Credits: 1
- STAT 5510 - Distribution Theory Credits: 4
- STAT 5520 - Inference I Credits: 4
- STAT 5530 - Inference II Credits: 3
- STAT 5540 - Large Sample Theory Credits: 3
- STAT 5615 - Time Series Analysis II Credits: 3
- STAT 5620 - Theory of Linear Models Credits: 3
- STAT 5630 - Multivariate Analysis Credits: 3
- STAT 5650 - Theory of Sampling Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3
- STAT 5670 - Mixed Models Credits: 3
- STAT 5680 - Advanced Bayesian Statistics Credits: 3

Statistics, M.S.

Profile

The Master's Program in Applied Statistics will give the student an extensive and broad background in statistical methods, data analysis, and written and oral presentation skills. This degree is a terminal experience in graduate statistical education and should not be viewed as preparatory for entrance into a Ph.D. program in statistics. Graduates will have the necessary background to work as data management specialists, statistical analysts, and as project managers within a wide range of research organizations.

Plan B (Option 1)

Coursework

In addition to the general requirements of the university all candidates for the MS (Plan B - Option 1) degree must successfully take and complete:

Required: 15 Credit Hours

- STAT 5210 - Advanced Regression Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- STAT 5470 - Data Analysis Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3

- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3

Electives

a minimum of 15 credit hours in other acceptable graduate courses. Acceptable courses include statistics courses numbered 5000 or higher, **EXCEPTING**:

- STAT 5050 - Statistical Methods for the Biological Science Credits: 3
- STAT 5070 - Statistical Methods for the Social Sciences Credits: 3
- STAT 5080 - Statistical Methods for the Agricultural and Natural Resource Sciences Credits: 3
- STAT 5185 - Analysis of Data Credits: 3

Total Credits: 30 Hours

Graduation Requirements: (1) successful completion of coursework and (2) a data analysis project (Plan B paper).

QuickStart Program

Mathematics Quick Start BS/MS

A five-year combined Master's and Bachelor's degree in mathematics, in which six credits of graduate coursework is counted toward both degrees. UW students must apply to be considered for this degree.

Mathematics Quick Start Information

Overview

The combined BS/MS program in Mathematics is designed to afford highly qualified students in their junior or senior year the opportunity to work towards both the BS and MS degrees in Mathematics. The program allows for advanced students to jump-start the graduate portion of their education by applying credits for graduate courses to both their BS and MS requirements. The MS degree earned under the combined BS/MS program is not a new or separate category of degree. However, through careful planning and coordination, this program can result in a reduction of the time required to complete both the Mathematics, B.S. and Mathematics, M.S. degrees.

Qualification/Admission

Application for admission may be submitted to the department at any time after the student has completed 75 undergraduate credits. Graduate credits may be applied toward the MS under this program upon the completion of 90 undergraduate credits. Additional minimum requirements for admission are:

1. Minimum GPA of 3.25

2. Minimum GPA in undergraduate math courses of 3.5

3. Completion of two transition courses or their equivalents

4. Three letters of recommendation from UW faculty (at least 2 from UW-Math)

Credits

The BS/MS-Math program allows for students under the guidance of their academic advisor to take graduate courses as part of their BS degree. During their senior year, up to six graduate credits (5000+ level) can be counted simultaneously towards both the BS and MS degrees in Mathematics. In principle, this "double dipping" allows students to earn a MS after completing only 144 credits (120 to earn the BS, 6 of which are applied toward the 30 credits required to earn the MS) instead of 150 credits. In addition, students may reserve a further six credits of 5000 level credits for their MS degrees prior to earning their BS; however, these credits will not be counted toward the BS degree.

Satisfactory progress

The department's Foundation Exam must be passed by the beginning of their second semester of their 4th year. Students in the BS/MS program must have a faculty advisor, with whom they consult to complete a program of study. The Program of Study (POS) must be submitted to the Mathematics Graduate Committee for approval by the end of the midterm of the first semester in which the student has been admitted into the program. The POS must include all courses to be taken during their senior year to the end of the students MS program. Any of the tracks (plan A or B) available to our Masters students will be available to students in this program. The advisor will aid the student in determining which track is the best for completion of the Masters.

Regulations

Students in this program will be governed by the regulations applicable to any undergraduate student in Mathematics until the student has completed 120 credit hours applicable to the BS degree in Mathematics. Once those 120 credit hours have been completed, the student will be enrolled as a graduate student and be governed by graduate student regulations in the Mathematics graduate program. To the extent possible, once the student transitions to being a graduate student, the student should complete the MS degree in 12 months.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Arts and Sciences requirements:

Students must take two "core" courses in addition to UW's University Studies Program requirements: Diversity in the United States (ASD) and Global Awareness (ASG). • No more than 60 hours in the major subject may be used toward the 120 credit hours required for graduation. • At least 30 hours in the major subject must be completed with a grade of C or better (the major may require more).

Statistics Quick Start BS/MS

An advanced degree in Statistics is powerful in its own right; statistical methods are part of the core of data science, so stands as a useful foundation for that as well. The Program in Statistics at the University of Wyoming now offers a QuickStart ("4+1") MS program, within which qualified students can obtain a Statistics, B.S. and a Statistics, M.S. degree in five years.

The program is intended for inspired, high-achieving students; the pace will be intense, as you will need to be taking courses at the graduate level in your undergraduate senior year.

The MS degree requires 30 credits; in order to make the 4+1 program work enrolled students can

- Have two three-credit 4XXX/5XXX classes count towards both the BS and MS degrees. Enrollment must be for the 5XXX section of the course. Tuition is charged at the undergraduate rate.

- Reserve two three-credit 4XXX/5XXX classes for graduate credit. Tuition is charged at the undergraduate rate, but these two classes *will only count towards the MS.*

With these four courses counting towards the MS, there remains 18 credits, which can be done in two semesters of three (three-credit) classes each.

Steps:

- Apply (usually in the Spring of your Junior year) online to the QuickStart- Statistics BS/MS -College of Arts & Science program[1]. You will need (unofficial is fine) college transcripts, a statement of purpose, and three letters of recommendation[2].
- Once you are enrolled in the program, the Admissions Office will work with you to put into play the double-dip and reserved courses mentioned above.

Acceptance into the MS is conditional until your undergraduate degree is awarded and results are in from your taking the GRE, which we recommend you take in your last undergraduate year.

[1] Instructions from the registrar: Apply at: https://www.uwyo.edu/admissions/apply-online.html

The log-in is different from WyoWeb. If you remember the log-in email/password form when you originally applied to UW, you can use the Returning Users option. Otherwise, use the First Time users option. When you get to the page where you select your program of study, select **QuickStart- Statistics BS/MS -College of Arts & Science**. All the Quickstart program are under Q to (hopefully) reduce confusion for non-quickstart applicants. Any questions during the application process can be directed to admissions@uwyo.edu or 766-5160.

[2] These documents are standard for applying to our graduate program; we anticipate we will have a mix of QuickStart students and regular (i.e. 2-year) MS students who are applying from elsewhere.

Department of Mechanical Engineering

2052 Engineering Building, (307) 766-2122
Web site: www.uwyo.edu/mechanical
E-mail: me.info@uwyo.edu
Department Head: Ray S. Fertig III

Professors:

RAY S. FERTIG III, B.S. University of Wyoming 2001; M.S. 2003; Ph.D. Cornell University 2010; Associate Professor of Mechanical Engineering 20232017, 2011.

JONATHAN W. NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineering 2012, 1997.

Associate Professors:

ERICA L. BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

MICHAEL STOELLINGER, M.S. Technical University Munich 2005; Ph.D. University of Wyoming 2010; Associate Professor of Mechanical Engineering 2018, 2012.

Assistant Professors:

XIANG ZHANG, B.S. Northeastern University (China) 2009; M.S. Beihang University (China) 2012; Ph.D. Vanderbilt University 2017; Assistant Professor of Mechanical Engineering 2019.

Instructional Professors:

LEVI J. KIRBY, B.S. Western Illinois University 2017; M.S. 2018; Ph.D. University of Iowa 2023; Assistant Instructional Professor of Mechanical Engineering 2023.

RAMSANKAR VEERAKUMAR, B.S University of Kerala (India) 2005; M.S. Birla Institute of Technology and Science (BITS Pilani) 2014. Ph.D. Iowa State University 2021. Assistant Instructional Professor of Mechanical Engineering 2021.

Lecturers:

KARI STRUBE, BS in Electrical Engineering (bioengineering option), University of Wyoming 2007. MS in Electrical Engineering, University of Wyoming, 2009. Assistant Lecturer, 2021

Professors Emeriti:

Dennis N. Coon, Paul A. Dellenback, Bruce R. Dewey, Andrew Hansen, Dimitri J. Mavriplis, Ovid A. Plumb, David E. Walrath

Mechanical Engineering B.S.

Mechanical Engineering is the broadest area of study in engineering. In contrast to other engineering disciplines, mechanical engineers are employed in significant percentages in almost all industrial and governmental organizations that employ engineers.

The spectrum of activities in which mechanical engineers are engaged continues to expand. The curriculum has in turn become flexible to allow for the education of mechanical engineering students in many diverse and allied areas, or for graduate school preparation.

The educational objectives of the of Mechanical Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The undergraduate program includes a foundation in mathematics, science, and engineering sciences. The three key elements of the mechanical engineering undergraduate program include core engineering principles, laboratory experience, and development of communication skills.

The mechanical engineering curriculum affords the student the flexibility to pursue specific professional goals within the discipline. Such an opportunity needs to be carefully considered by each student, so that elective courses are chosen with these goals in mind. During the junior and senior years, the student selects 15 credit hours of technical electives.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Mechanical Engineering, B.S.

Energy Systems Engineering B.S.

Energy Systems Engineering (ESE) is an ABET-accredited undergraduate degree offering in the Department of Mechanical Engineering. The ESE program was designed to train engineers to address one of this country's foremost challenges: to achieve energy independence and meet the growing demand for energy, while at the same time addressing critical environmental concerns. The program is intended to help meet these challenges by preparing students to be:

- technology leaders in energy conversion and environmental protection systems
- capable managers in the energy industry
- versatile overseers of energy development by the governmental sector
- technically-trained and environmentally-sensitive liaisons between the energy industry and the public.

ESE students will be trained in alternative and environmentally-friendly energy conversion systems, as well as more traditional technologies that will continue to play an important role for the foreseeable future.

Although the discipline of mechanical engineering has historically been responsible for the design of energy conversion cycles and equipment, issues outside the conventional realms of engineering are increasingly important to address as new and improved energy conversion systems are implemented. The engineer trained in Energy Systems will be better equipped than traditional mechanical engineers to deal with the environmental, legal, political, economic, and permitting aspects of new energy projects.

The educational objectives of the of Energy Systems Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Energy Systems Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The ESE degree has many coursework requirements in common with the Mechanical Engineering degree, particularly in the thermal, fluids, and energy conversion sciences. However, the ESE program emphasizes energy conversion aspects of Mechanical Engineering and requires coursework from UW's School of Environment and Natural Resources (ENR), course work in environmental law, and electives picked from a list of classes that focus attention on energy and the environment. The ENR courses expose students to issues related to permitting such as preparation of environmental impact studies, and related regulations such as the Endangered Species Act. In addition, technical electives allow students to choose more detailed study in personal areas of interest including, for example, courses in environmental engineering, wind engineering, solar engineering, and petroleum engineering.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses

completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Energy Systems Engineering, B.S.

Concurrent ME/ESE Degrees

In the event that a student desires concurrent majors in ME and ESE, University policy requires that ALL requirements for each program are met. The student must select which will be the primary major.

Graduate Study

The Department of Mechanical Engineering offers graduate study leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering. Faculty in Mechanical Engineering conduct research in the areas of aerodynamics, biomaterials, composite materials, computational material science, computational fluid dynamics, combustion, continuum mechanics, heat transfer, materials reliability, mechanical behavior of materials, nanomechanics of surfaces and interfaces, and wind energy.

Department Specific Graduate Admission Requirements

Applicants should possess a Bachelor of Science (B.S.) degree or equivalent in Mechanical Engineering with a minimum GPA of 3.000 on a 4.000 grade scale or equivalent. Students that do not hold B.S.M.E. degrees may qualify as M.S. candidates by completing, without credit, certain prerequisite courses as specified by the Department. These prerequisites would depend upon the candidate's background and upon the area in which he/ she plans to specialize.

A minimum composite score of 294 (MS) or 307 (PhD) on the Verbal and Quantitative sections of the GRE is required for admission to the Mechanical Engineering Department. For international students, a minimum TOEFL score of 90 on the Internet-based test (iBT) (or a minimum IELTS score >= 6.5 or a DuoLingo >= 110) is required. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the following minimum English Proficiency must be met: OPI >= Advanced Mid, TOEFL Speaking >= 23, IELTS Speaking >= 6.5, DuoLingo Conversation & Production (average) >= 110. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/study-iep-esl/grad-ta-support/index.html) if you have questions regarding the English proficiency requirements. Admittance to the graduate program is competitive, and the average applicant that is accepted with assistantship support will likely have well above the minimum qualifications.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): resume, copy of academic transcript, copy of GRE scores, copies of TOEFL (or IELTS or DuoLingo) scores for international non-native English speaking applicants, three letters of reference, and a Statement of Purpose indicating the applicant's technical area of interest, abilities, and objectives in completing a graduate degree in mechanical engineering. If you are applying for the BS/MS program, please choose "QuickStart - Mechanical Engineering BS/MS" as the program (no GRE score and Statement of Purpose are needed for the BS/MS application). Applicants to the joint MBA/MS-ME program should chose the MS degree program for the application. To be considered for Assistantships, applications must be submitted before March 15 for the Fall semester or October 15 for the Spring semester.

For Quickstart B.S./M.S. admissions requirement, see degree link below.

Major

Energy Systems Engineering, B.S.

Energy Systems Engineers design, develop, and test energy systems and devices with emphasis on renewables, conversion, and more, and in the context of environmental and legal considerations. The UW BS in Energy Systems Engineering is ABET accredited.

Accreditation

The Energy Systems Engineering program is accredited by the Engineering Accreditation Commission(s) of ABET, https://www.abet.org, under the General Criteria.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy Systems Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Policy for Transfer Credit Towards Energy Systems Engineering (ESE) Core Coursework

In general, transfer of coursework toward an Energy Systems Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Energy Systems Engineering electives without a direct University of Wyoming equivalent). However, three courses are considered to be the core of the Energy Systems Engineering program, and therefore credit cannot be transferred from another institution. These courses are ESE 3020, ESE 3040, and ESE 3360. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ESE courses requires explicit written approval from the Department.

Energy Systems Engineering Curriculum

Atmospheric Science

- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3

Chemistry

- CHEM 1020 - General Chemistry I Credits: 4

Engineering Science

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3

Environment and Natural Resources

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

Math

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3

Energy System Engineering

- ESE 3005 - Engineering Experimentation and Solid Modeling Credits: 3
- ESE 3020 - System Dynamics Credits: 3
- ESE 3040 - Thermodynamics II Credits: 3
- ESE 3160 - Thermal/Fluid Science Lab Credits: 3
- ESE 3360 - Fundamentals of Transport Phenomena Credits: 3
- ESE 4060 - Energy Systems Design I Credits: 3
- ESE 4070 - Energy Systems Design II Credits: 3

Life Sciences

- LIFE 1010 - General Biology Credits: 4

Physics

- PHYS 1220 - Engineering Physics II Credits: 4

Electives

- One Business Elective (min 3 CH, select from department-approved list)

(See here for Math, Science and Business Elective options: me_math_science_business_electives_2022_02_04.pdf (uwyo.edu)

ESE Electives

Two ESE Electives (min 6 CH total) choose 2 from:

- ECON 1300 - Oil: Business, Culture, and Power Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- POLS 4051 - Environmental Politics Credits: 3

- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- PETE 4000 - Environment, Technology and Society Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 (Applied GIS or Econ Nat Resources)

Technical Electives

Five Technical Electives (min 15 CH). Choose 5 from:

- ARE 4430 - HVAC Systems Analysis and Design Credits: 3
- ARE 4740 - Mechanical Systems Design Project Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ES 2280 - Physical Computing Credits: 3
- ESE 4455 - Combustion Engineering Credits: 3
- ESE 4461 - Computational Fluid Dynamics I Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3
- ESE 3060 - Numerical Methods for Engineers Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ME 3450 - Properties of Materials Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3

Program Educational Objectives

- Successfully practice the profession of engineering

- Demonstrate career growth (e.g., increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees)

- Apply energy systems engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts

- Successfully serve in a range of leadership and collaborative roles in the profession and in the community

- Exhibit high professional standards and commitment to ethical action

Energy Systems Student Outcomes

The Department's Student Outcomes are:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors

- An ability to communicate effectively with a range of audiences

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

1. Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2205 , MATH 2210, and the seven ES courses).

2. Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 126 total credit hours is required. A minimum of 48 hours of upper division coursework are required, so ESE, business, and technical electives should be chosen appropriately.

3. All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Mechanical Engineering, B.S.

Mechanical Engineers design, develop, build, and test mechanical and thermal systems and devices in a wide range of fields including energy, manufacturing, materials, machines, and more.

Accreditation

The Mechanical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Mechanical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Mechanical Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

- Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
- ES 2800 is NOT a part of the MESC
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 48 hours of upper division coursework are required, so ME, business, and technical electives should be chosen appropriately.
- A minimum of 126 total credit hours is required.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Policy for Transfer Credit Towards Mechanical Engineering (ME) Core Coursework

In general, transfer of coursework towards a Mechanical Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Mechanical Engineering electives without a direct University of Wyoming equivalent). However, six courses are considered to be the core of the Mechanical Engineering program, and therefore credit cannot be transferred from another institution. These courses are ME 3010, ME 3020, ME 3040, ME 3170, ME 3360, and ME 3450. Exceptions

may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ME courses requires explicit written approval from the Department.

Mechanical Engineering Curriculum

Chemistry

- CHEM 1020 - General Chemistry I Credits: 4

Engineering Science

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- ES 2280 - Physical Computing Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3

Math

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3

Mechanical Engineering

- ME 3005 - Engineering Experimentation and Solid Modeling Credits: 3
- ME 3010 - Intermediate Mechanics of Materials Credits: 3
- ME 3020 - System Dynamics Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3160 - Thermal/Fluid Science Lab Credits: 3
- ME 3170 - Machine Design Credits: 3
- ME 3360 - Fundamentals of Transport Phenomena Credits: 3
- ME 3450 - Properties of Materials Credits: 3
- ME 4060 - Systems Design I Credits: 3
- ME 4070 - Systems Design II Credits: 3
- ME 4150 - Mechanical Behavior of Materials Credits: 3

Physics

- PHYS 1220 - Engineering Physics II Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4 (min 3 CH)

  OR
- PHYS 1210 - Engineering Physics I Credits: 4

Electives

- Four ME Electives (min 12 CH total, any upper division ME course or EE 4620, excluding ME 3975)
- One Math/Science Electives (min 3 CH total, select from department-approved list)
- One Business Elective (min 3 CH, select from department-approved list)

(See here for Math, Science and Business Elective options: me_math_science_business_electives_2022_02_04.pdf (uwyo.edu))

- ME 3060 - Numerical Methods for Engineers Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- EE 4620 - Automatic Control Systems Credits: 3
- ME 4010 - Mechanical Vibrations Credits: 3
- ME 4020 - Design of Mechanical/Electronic Systems Credits: 3
- ME 4040 - Introduction to Finite Elements Credits: 3
- ME 4100 - Manufacturing Processes Credits: 3
- ME 4200 - Thermo/Kinetics of Materials Credits: 3
- ME 4210 - Introduction to Composite Materials Credits: 3
- ME 4215 - Composite Materials Design and Manufacturing Credits: 3
- ME 4240 - Gas Dynamics I Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- ME 4350 - Airplane Aerodynamics and Flight Credits: 3
- ME 4430 - HVAC Systems Analysis and Design Credits: 3
- ME 4450 - Principles of Materials Selection Credits: 3
- ME 4455 - Combustion Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4461 - Computational Fluid Dynamics I Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

Mechanical Engineering Program Educational Objectives

- Successfully practice the profession of engineering
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

Mechanical Engineering Program Student Outcomes

The Department's Student Outcomes are:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors

- An ability to communicate effectively with a range of audiences

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

- Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
- ES 2800 is NOT a part of the MESC
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 48 hours of upper division coursework are required, so ME, business, and technical electives should be chosen appropriately.
- A minimum of 126 total credit hours is required.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Graduate

Mechanical Engineering, M.S.

The UW Mechanical Engineering MS program offers two options: thesis (Plan A) or non-thesis (Plan B). Both tracks offer opportunities to take graduate coursework in topics of thermal fluids, materials, experimentation, computational tools, and more.

Program Specific Degree Requirements

Plan A (Thesis)

A thesis project is chosen in consultation with an ME faculty member and constitutes 4 credit hours of ME 5960 in the 30-hour Plan A program. ME 5478 (Seminar) is to be taken during the final semester when the thesis is presented and defended and constitutes 2 credit hours of the 30-hour Plan A program. Classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken

- Thesis research (ME 5960 or ME 5980): 4 credit hours
- Seminar (ME 5478): 2 credit hours
- ME 5475 as Independent Study: maximum of 3 credit hours
- Total: minimum of 30 credit hours

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. Up to two courses may be from the fields of business, ENR, or public policy.

Plan B (Non-Thesis)

The Plan B M.S. degree can be completed by earning a minimum of 30 credits beyond the baccalaureate degree. Classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken
- ME 5475 as Independent Study: maximum of 3 credit hours
- Total: minimum of 30 credit hours

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. Research credits earned through ME 5960 as part of an unfinished M.S. Plan A program may not be counted.

MS-ME/MBA Dual Program

The UW Mechanical Engineering MS/MBA program offers the opportunity to pursue MS and MBA degrees simultaneously and reduce course requirements by applying course credit towards both degrees. There are thesis and non-thesis options for the MS degree.

MS-ME/MBA Program Requirements

The MS-ME component is 30 credits beyond the BS level and is typically a non-thesis option. 9 credits from the MBA core curriculum will count towards the 30 credit MS-ME requirements. Of the remaining 21 credits, classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 credits
- ME 5475 as Independent Study: maximum of 3 credit hours
- A maximum of 6 credits at the 4000 level outside of ME may be taken

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines.

MS-ME/MBA Thesis Option

For a thesis option, students will only count 3 credits from the MBA core-curriculum and are required to complete 4 credits of ME 5960 and 2 credits for ME 5478 , similar to the Plan A option.

Mechanical Engineering Graduate Level Courses

- ME 5040 - Introduction to Finite Element Analysis Credits: 3
- ME 5045 - Advanced Finite Element Analysis Credits: 3
- ME 5200 - Thermo/Kinetics of Materials Credits: 3

- ME 5432 - Advanced Materials Science Credits: 3
- ME 5434 - Computational Materials Science Credits: 3
- ME 5435 - Failure of Engineering Materials Credits: 3
- ME 5438 - Plasticity and Viscoelasticity Credits: 3
- ME 5440 - Fluid Mechanics Credits: 3
- ME 5442 - Advanced Fluid Mechanics Credits: 3
- ME 5446 - Turbulence Credits: 3
- ME 5448 - Experimental Fluid Dynamics. Credits: 3
- ME 5452 - Convection Heat Transfer Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- ME 5472 - Continuum Mechanics Credits: 3
- ME 5478 - Seminar in Mechanical Engineer Credits: 2
- ME 5960 - Thesis Research Credits: 1-12
- ME 5961 - Graduate Projects Credits: 1-4
- ME 5980 - Dissertation Research Credits: 1-12

Mechanical Engineering, Ph.D.

The UW Mechanical Engineering PhD program includes coursework and a substantial research component. Research is performed with an advisor, and a dissertation is produced. Program requirements include Qualifying, Preliminary, and Final Examinations.

Program Requirements

For students of outstanding academic ability and with demonstrated capacity for undertaking independent research on advanced engineering problems, the Ph.D. program in mechanical engineering is offered. The Ph.D. requires a minimum of 72 graduate hours, at least 42 of which must be earned in formal coursework. A minimum of 24 in-resident coursework hours is required (ME 5980 - Dissertation Research counts towards in-resident coursework). In addition to coursework requirements, graduate students pursuing a Ph.D. in Mechanical Engineering must complete three examinations: Qualifying, Preliminary, and Final.

<u>The 42 credits in formal coursework must meet the following constraints:</u>

- ME courses (5000-level): minimum of 15 hours
- ME 5475 as Independent Study: maximum of 3 credit hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. All graduate students in Mechanical Engineering are expected to follow the graduate education policies of the College of Engineering and Applied Sciences.

Qualifying Exam

In consultation with their advisor, students are allowed to take the Qualifying Exam after declaring pursuit of a Ph.D. degree. Graduate students do not require a M.S. to take the Qualifying Exam. The format is a knowledge-based examination consisting of three subject areas, each with both a written and an oral component. The candidate will be evaluated for each subject area, based on the cumulative performance in both (written and oral) components. Should the student fail a single subject area, at the discretion of the committee, they may repeat the failed portion at the next available opportunity. A third attempt is not permitted. The successful completion of the Qualifying Exam is required before the Preliminary Exam.

Preliminary & Final Exam

The purpose of the Preliminary Exam is to evaluate the aptitude of the Ph.D. candidate to perform research based on preliminary results, and to assess the student's plan for completing the research necessary for the Final Exam. The Preliminary Exam follows university regulations and, at a minimum, consists of a seminar attended by the student's committee members.

The purpose of the Final Exam is to ensure the Ph.D. candidate has sufficient accomplishments to be awarded a Ph.D. The Final Exam consists of an oral defense of the dissertation in accordance with university policy.

Mechanical Engineering Graduate Level Courses

- ME 5045 - Advanced Finite Element Analysis Credits: 3
- ME 5040 - Introduction to Finite Element Analysis Credits: 3
- ME 5200 - Thermo/Kinetics of Materials Credits: 3
- ME 5432 - Advanced Materials Science Credits: 3
- ME 5434 - Computational Materials Science Credits: 3
- ME 5435 - Failure of Engineering Materials Credits: 3
- ME 5438 - Plasticity and Viscoelasticity Credits: 3
- ME 5440 - Fluid Mechanics Credits: 3
- ME 5442 - Advanced Fluid Mechanics Credits: 3
- ME 5446 - Turbulence Credits: 3
- ME 5448 - Experimental Fluid Dynamics. Credits: 3
- ME 5452 - Convection Heat Transfer Credits: 3
- ME 5455 - Combustion Engineering Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- ME 5472 - Continuum Mechanics Credits: 3
- ME 5474 - Energy Methods Credits: 3
- ME 5478 - Seminar in Mechanical Engineer Credits: 2
- ME 5980 - Dissertation Research Credits: 1-12

QuickStart Program

Mechanical Engineering Quick Start, B.S./M.S.

The UW Mechanical Engineering BS/MS QuickStart program offers Mechanical Engineering and Energy Systems Engineering undergraduate students the opportunity to start on MS graduate coursework early and gain credit towards BS and MS degree requirements.

Requirements for Admission

Through judicious choice of undergraduate electives, this program allows double-counting up to two 5000-level courses from the B.S. program toward M.S. degree requirements, thus reducing the time requirement for completing an M.S. degree. Students can apply for admission to the B.S./M.S. program by achieving junior status and meeting the following requirements for admission:

- completion of the four core ME courses (listed below)
- a minimum overall GPA of 3.250

- a minimum GPA of 3.250 in ME courses
- a minimum of two letters of recommendation from ME faculty at UW.

Core Mechanical Engineering Courses

Completion of the following four ME courses is required for admission.

- ME 3010 - Intermediate Mechanics of Materials Credits: 3
- ME 3020 - System Dynamics Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3360 - Fundamentals of Transport Phenomena Credits: 3

Additional Information

Students must maintain a GPA of at least 3.250 in their undergraduate and at least 3.000 in their graduate coursework to remain in good standing in the program. Not meeting the GPA requirement places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be dismissed from the Quick Start program. Transfer students must have taken courses equivalent to the ME core courses. Transfer students must have also completed at least 15 credit hours of courses at UW to be eligible for admission.

Until a student in this program has completed all requirements for their B.S. degree they will be governed by the regulations applicable to undergraduate students in the Department. After completion of the B.S degree, they will be governed by the regulations applicable to any graduate student in the ME department. Note that, the M.S. portion of the Quick Start program can be either a Plan-A (thesis option) or a Plan-B (non-thesis option). Please refer to the M.S.-ME degree catalog entry for details.

As many as 6 credit hours of ME department courses at the 5000 level may be counted towards both the undergraduate degree requirements and the requirements for the M.S. degree. In addition, up to six hours of reserved graduate credit can be applied towards the M.S. degree.

Department of Energy and Petroleum Engineering

4015 Engineering Building, (307) 766-4258
Web site: www.uwyo.edu/petroleum
Department Head: Dennis Coon, Ph.D., Interim

Professors:

HERTANTO ADIDHARMA, B.Sc. Institute of Technology, Surabaya 1987; Ph.D. Louisiana State University 1999; Professor of Chemical Engineering 2019.

MAOHONG FAN, B.S. Wuhan University of Science and Engineering 1984; M.S. Beijing University of Science and Tech. 1992; Ph.D. Chinese Academy of Sciences 1997; Ph.D. Iowa State University 2000; Ph.D. Osaka University 2003; Professor of Chemical Engineering 2014.

KHALED A.M. GASEM, B.Sc. University of California at Berkley 1976; M.Sc. Colorado School of Mines 1979; Ph.D. Oklahoma State University 1986; Professor of Chemical Engineering 2014.

LAMIA GOUAL, B.Sc. Ecole Nationale Polytechnique 1993; M.Sc. Imperial College, London 1998; Ph.D. 2003; Professor of Petroleum Engineering 2021.

MOHAMMAD PIRI, B.Sc. Azad University, Arak 1995; M.Sc. Azad University, Tehran 1998; M.Sc. Imperial College, London 2000; Ph.D. 2004; Professor of Petroleum Engineering 2018.

Associate Professors:

PEJMAN TAHMASEBI, B.S. Sahand University of Technology 2007; M.Sc. Amirkabir University 2009; Ph.D. University of Southern California/Amirkabir University 2012; Associate Professor of Petroleum Engineering 2021.

MORTEZA DEJAM, B.Sc. Petroleum University of Technology 2007; M.Sc. Sharif University of Technology 2009; Ph.D. University of Calgary 2016; Associate Professor of Petroleum Engineering 2022.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of Wyoming 2013; Associate Professor of Petroleum Engineering 2022.

Academic Professionals:

TAWFIK ELSHEHABI, B.Sc. Suez Canal University 2003; M.Sc. 2007; Ph.D. West Virginia University 2017; Senior Lecturer of Petroleum Engineering 2019.

Instructional Professors:

REZA TAHERI, B.Sc. Amirkabir University 1997; M.S. University of Twente, Netherlands 2001; Ph.D. Curtin University 2008; Assistant Instructional Professor of Petroleum Engineering 2020.

Professors of Practice:

DOUGLAS CUTHBERTSON, B.S. University of Wyoming 1985; Professor of Practice in Petroleum Engineering 2016.

BRIAN TOELLE, B.S. Texas A&M University 1978; M.S. Austin State University 1981; Ph.D. West Virginia University 2013; Professor of Practice in Petroleum Engineering 2015.

Professors Emeriti:

Jack Evers
H. Gordon Harris
Norman R. Morrow
Mrityunjai P. Sharma
Brian Towler

Petroleum Engineering trains students for Wyoming's largest industries, the production of crude oil and gas. With the recognition of the state's and nation's vast reserves of natural gas, the curriculum emphasizes the production and processing of this important resource. Because of American predominance in petroleum technology, career opportunities are available throughout most of the world.

The curriculum in petroleum engineering is based upon sound preparation in fundamental sciences, mathematics, physics, chemistry, and geology. The essentials of engineering are added to this foundation: computer programming, statics, dynamics, materials science, hydraulics, and thermodynamics. To aid in developing individuals' social potential

and broaden their educational background, an integrated program in humanities and social sciences is included in the curriculum. Petroleum engineering courses, which are primarily concerned with application of previously acquired knowledge to problems of the oil and gas industry, are concentrated in the junior and senior years.

Petroleum Engineering degree candidates must meet the academic requirements of the college and must have a GPA of 2.000 or greater in Petroleum Engineering (PETE) courses attempted at UW that are applied toward graduation for the B.S. degree from the department. For approved electives, students must have prior approval of their advisor and department head. Elective courses must be chosen from a list provided by the department. Students must complete a minimum of 48 upper division (junior/senior) or graduate-level credit hours for this program.

Program Vision

As a highly respected community of scholars and practitioners, we are committed to providing outstanding petroleum engineering education, conducting internationally recognized research in key focus areas, and improving the well-being of the people of Wyoming and the world through education, technical innovation and economic development.

Program Mission

Provide outstanding, contemporary, ABET-accredited education in petroleum engineering to highly qualified undergraduates who will serve as an economic resource for Wyoming and the world.

Provide excellent, research-based graduate educations at the master's and doctoral levels in petroleum engineering to top students who will drive technical and economic innovation for Wyoming and the world.

Conduct internationally recognized research in key focus areas that leads to new technologies while also enhancing economic development for Wyoming and the world.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum Engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.
- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Undergraduate "Major Only" Courses

Upper division PETE core courses are restricted to petroleum engineering majors only.

Technical Electives Policy

The technical electives in the petroleum engineering curriculum can be used to complete a curriculum emphasis option or a minor. The number of credits of upper division courses must be satisfied, therefore, 13 elective credits must be 3000-level courses or higher.

Note: Technical Electives must be selected with your advisor's documented approval.

Transfer Credit Limit

To graduate with a degree in Petroleum Engineering from UW, students must successfully complete at least 20 credit hours of required PETE courses at UW.

- Once a student has transferred to UW's Department of Petroleum Engineering from another institution, they may transfer no more than 9 additional credits from other institutions.
- Non-transfer students may transfer up to 18 credits from other institutions.

Repeating a Course

Students who fail a PETE class three times can no longer enroll in that class.

Academic Suspension

Students who have been academically suspended from UW twice are no longer eligible to enroll in PETE courses.

Curriculum Emphases

The Department of Petroleum Engineering has established curriculum emphases that could shape your interest further or acquire useful transferable skills. A curriculum emphasis is not a minor or concentration and will not be stated on your diploma. If you choose to follow a curriculum emphasis option, you should discuss it with your academic advisor so they can assist you in planning your courses.

Petroleum Engineering offers the following curriculum emphasis options:

- Unconventional Reservoirs
- Chemical Engineering
- Mechanical Engineering
- Graduate School Preparation

BS/MS Quick Start Program

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during the first or second semester of their junior year or *before* starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

- Qualified students may receive provisional admission to the Petroleum Engineering graduate program by submitting a quick start application through the online graduate application system. This provisional admission will permit students to make their long-term educational plans earlier in their studies and before graduating the B.S. program, thus providing enhanced opportunities for course selection and involvement in research.
- Students in the program may apply up to 6 credit hours of graduate-level courses toward both the B.S. and M.S. degree programs. By successfully completing up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergraduate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Study

The Department of Petroleum Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in petroleum engineering. The M.S. degree is offered with Plan A and Plan B options.

In addition, the Department offers an M.B.A./M.S. in Petroleum Engineering Dual Degree Program, in conjunction with the College of Business M.B.A. Program. Students pursuing this option must apply to and be offered admission from both programs.

Admission Process and Requirements

Graduate admission is open to students with at least a B.S. degree in petroleum engineering or closely related field and who meet the minimum requirements as shown below. Please note that test scores must be dated within the previous two years to be considered valid.

- A GPA of 3.000, or equivalent;
- A GRE score;
- A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) **or** an IELTS score of 6.5 in each category for international applicants. We are also accepting the DuoLingo exam with a minimum score of 110 required.

Applications must include the following documents uploaded with the online application:

- Complete official transcripts of all prior college-level coursework,
- Current resume or curriculum vitae,
- Recommendations from at least three academic or professional references,
- A statement of purpose, and
- Unofficial test score certificates for both GRE and English proficiency exams.

Applications will not be reviewed or accepted until all required documents have been submitted.

The deadlines to submit applications are February 1 each year (to be considered for Fall semester), and September 15 each year (to be considered for Spring semester).

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/graduate/prospective/index.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Courses of Study

Incoming graduate students, not preselected by a faculty member, must meet with Petroleum faculty members to obtain information regarding research areas and current availability. The student must formally request a Petroleum faculty member of their choosing to oversee their degree study program.

Masters Program

1. All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following courses:

Required Courses	**Hrs.**
PETE 5355	3
PETE 5890	2
At least three Core Courses from the following:	
PETE 5010	3
PETE 5020	3
PETE 5060	3
PETE 5080	3
PETE 5310	3
PETE 5350	3
Plan A Thesis Additional Course Requirements:	
4000-level or above approved electives	12
PETE 5960	4
Total Credits	**30**
Plan B Non-Thesis Additional Course Requirements:	
4000-level or above approved electives	14
PETE 5970	2
Total Credits	**30**

2. All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following courses:

Required Courses	**Hrs.**
PETE 5055	3
PETE 5340	3
PETE 5355	3
PETE 5715	3
PETE 5890	2
At least four Core Courses from the following:	

PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....7
GEOL 5190.....3
PETE 5960.....4
Total Credits 40

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....7
GEOL 5190.....3
PETE 5970.....4
Total Credits 40

Dual Degree Program - M.B.A./M.S. degree in Petroleum Engineering

3. All Dual Degree M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses **Hrs.**
PETE 5355.....3
PETE 5890.....2

At least three Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4
Total Credits 30

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2
Total Credits 30

4. All Dual Degree students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses **Hrs.**
PETE 5055 3
PETE 5340 3
PETE 5355 3
PETE 5715 3
PETE 5890 2

At least four Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4
Total Credits 42

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2
Total Credits 42

Note: For a student with a B.S. in another discipline, upon acceptance into the M.S. program, the Graduate Program Committee will develop a plan of study with the consent of the advisor.

Doctoral Program

1. All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least four Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....18

Research
PETE 5980..... 30
Total Credits 72

2. All Petroleum Ph.D. students with an B.S. in Other Majors must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least five Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....15

Research
PETE 5980..... 30
Total Credits 72

**Transferable from MS degree if applicable.*

***Up to 14 credits of electives transferable from MS degree if applicable.*

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890, Petroleum Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by any source other than state funds will work with their supervisor or faculty mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and
- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Major

Petroleum Engineering, B.S.

Petroleum engineers combine fundamentals of science & math with computer programming, materials science, fluid mechanics and thermodynamics to develop and apply new technology to recover hydrocarbons from conventional and unconventional reservoirs.

Accreditation

The Petroleum Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Petroleum and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **122** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math and Science

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Engineering Science

- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3

- ES 2410 - Mechanics of Material I Credits: 3

Petroleum Engineering

- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- PETE 2060 - Computing and Data Mining Credits: 3
- PETE 2070 - Geology/Geophysics for Petroleum Engineers Credits:
- PETE 3015 - Phase Behavior of Reservoir Fluids Credits: 3
- PETE 3025 - Heat and Mass Transfer Credits: 3
- PETE 3110 - Reservoir Petrophysics Credits:
- PETE 3200 - Reservoir Engineering Credits: 3
- PETE 3255 - Basic Drilling Engineering Credits: 3
- PETE 3715 - Production Engineering Credits: 3
- PETE 3725 - Well Completion and Stimulation Credits: 3
- PETE 4220 - Geostatistics and Subsurface Characterization Credits: 3
- PETE 4225 - Well Test Analysis Credits: 3
- PETE 4255 - Advanced Drilling Engineering Credits: 3
- PETE 4320 - Well Log Interpretation Credits: 3
- PETE 4340 - Petroleum Economics and Law Credits: 3
- PETE 4736 - Petroleum Engineering Design Credits: 4
- PETE Elective Credits: 6
- Technical Elective Credits: 6 (See advisor for options).

Additional Requirements/Program Information

- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

- A grade of C or better is required for the following courses:

- USP Communication courses: COM1, COM2, COM3
- All Engineering Science (ES) courses
- MATH courses that are prerequisites to ES or PETE courses

Petroleum Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.

- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Petroleum Engineering Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.

- An ability to communicate effectively with a range of audiences.

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduate

Energy and Petroleum Engineering, M.E.

The program, with an initial four specialization options in energy-related disciplines (Energy, Advanced Drilling, Data Analytics, Blockchain) is a direct response to the high demand of the Energy and Petroleum industry worldwide to employ graduates with these skills.

Curriculum Map and Program Structure

- Students enrolled in the MEng program will need to complete 30 credits (typically, 10 courses of 3 credits each) to graduate.
- Students with a bachelor's degree in petroleum engineering shall select a minimum of five (5) specialized courses from a list of core courses under each discipline and the remaining courses can be taken as technical electives in the department or from other programs across campus. Students with other engineering or related science backgrounds will be required to take five (5) graduate courses in Petroleum Engineering as electives in addition to the five (5) core courses in their specialized area.
- In some cases, and, if one without a prior degree in petroleum engineering, provides adequate evidence of past training or industry experience in the petroleum industry, the number of petroleum engineering electives may be reduced to allow for more courses in the specialized discipline.

Core Courses in Energy Engineering

This list is the general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5050 - Life Cycle Analysis Credits: 3
- PETE 5860 - Energy, Environment, and Materials Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- EPE 5010 - Subsurface Energy Storage Credits: 3 3
- EPE 5020 - Petroleum and Geothermal Engineering Credits: 3 3
- EPE 5030 - Exergy Credits: 3 3
- EPE 5040 - Energy Economics Credits: 3

- EPE 5050 - Life Cycle Analysis Credits: 3 3
- EPE 5860 - Energy, Environment, and Materials Credits: 3 3

Core Courses in Advanced Drilling Engineering

This is the general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5255 - Advanced Drilling Engineering Credits: 3
- PETE 5215 - Electronics I Laboratory Credits: 3
- EPE 5210 - Advanced Well Control Credits: 3 3
- EPE 5220 - Drilling Problems and Solutions Credits: 3 3
- EPE 5230 - Managed Pressure Drilling Credits: 3 3
- EPE 5255 - Advanced Drilling Engineering Credits: 3

Core Courses in Data Analytics

This is the list and general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5150 - Topics in Petroleum Engineering Credits: 1-3
- EPE 5110 - Energy Data Analysis using Python Credits: 3 3
- EPE 5120 - Visual Analytics for the Energy Industry Credits: 3 3
- EPE 5130 - Data Analytics Applications in the Energy Industry Credits: 3
- EPE 5140 - Temporal Analytics for the Energy Industry Credits: 3
- EPE 5150 - Project Management in Energy Analytics Credits: 3 3
- EPE 5160 - Graph Modeling for Energy Industry Credits: 3 3
- EPE 5170 - Text Analytics for Energy Solution Credits: 3

Core Courses in Blockchain Technology

This is the list and general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- BKCH 4021 - Business Applications of Blockchain Credits: 3
- BKCH 4121 - Case Studies in Block Chain Credits: 3
- PETE 4820 - Blockchain in Energy Credits: 3
- EPE 5310 - Applied Blockchain for Oil and Gas Credits: 3

Elective Courses

Students can take electives from all the specialization areas of MEng, PETE courses, or the following list of approved courses across campus. Each course is 3 credits. Other electives may be selected with advisor approval.

- COSC 5010 - Graduate Topics in Computer Science Credits: 1-6
- ESE 4460 - Solar and Geothermal Engineering Credits: 3
- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 5474 - Energy Methods Credits: 3

- ME 5475 - Topics in Mechanical Engineering II Credits: 1-6
- CE 5430 - Environmental Engineering Chem Credits: 3
- CE 5470 - Water for Energy Credits: 3
- CE 5700 - Civil Engineering Problems I Credits: 1-3 (Carbon Capture and Storage: Section 3)
- CE 5810 - Groundwater Hydrology Credits: 3
- CE 5870 - Water Resource Engineering Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3
- GEOL 5250 - Mathematical Geosciences Credits: 3
- GEOL 5470 - Fire Ecology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3
- GEOL 5835 - Applied/Exploration Geophysics Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4430 - Energy Economics Credits: 3
- ECON 5400 - Advanced Resource and Environmental Economics Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ENR 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3
- ENR 5050 - Techniques in Environmental Data Management Credits: 4
- ENR 5150 - Environmental Science: Perspectives and Methods Credits: 3
- ENR 5500 - Risk Analysis Credits: 4
- ENR 5750 - ENR Law and Policy Credits: 3
- MGT 5504 - Energy Industry Value Chain Credits: 3
- MBAM 5506 - Energy Finance: Securities, Hedging, and Trading Credits: 3
- MBAM 5501 - Energy Economics and Policy Credits: 3
- EPE 5090 Energy Research Method
- EPE 5890 Energy Technology Seminar

Petroleum Engineering, M.S.

Petroleum M.S. Students With a B.S. In Petroleum Engineering

All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses

- PETE 5355 - Mathematical Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least three Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3

- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3

Total Credits: 14 Hours

Plan A Thesis Additional Course Requirements:

- 4000-level or above approved electives Credits: 12
- PETE 5960 - Thesis Research Credits: 1-12

Total Credits: 30 Hours

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives **Credits / Units:** 14
- PETE 5970 - MS Plan B Research Project Credits: 1-2

Total Credits: 30 Hours

Petroleum M.S. Students With a B.S. In Chemical or Mechanical Engineering

All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses:

- PETE 5055 - Drilling Engineering Credits: 3
- PETE 5340 - Reservoir Engineering. Credits: 3
- PETE 5715 - Production Engineering Credits: 3

Core Courses

At least five Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3

Total Credits: 26 Hours

Plan A Thesis Additional Course Requirements:

- 4000-level or above approved electives Credits: 7
- GEOL 4190 - Petroleum Geology Credits: 3
- PETE 5960 - Thesis Research Credits: 1-12

Total Credits: 40 Hours

Plan B Non-Thesis Additional Course Requirements:

- PETE 5970 - MS Plan B Research Project Credits: 1-2
- 4000-level or above approved electives Credits: 9
- GEOL 4190 - Petroleum Geology Credits: 3

Total Credits: 40 Hours

Graduate Seminar Requirements

All petroleum engineering PhD students must enroll in PETE 5890 - Petroleum Engineering Graduate Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester. MS students are required to take PETE 5890 for at least two semesters.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by a faculty mentor will work with their mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Petroleum Engineering, Ph.D.

Students with a B.S. in Petroleum Engineering

All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least three Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3

Electives

- 4000-level or above approved electives Credits: 21

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72

Students with an M.S. in Petroleum Engineering

All Petroleum Ph.D. students with an M.S. in Petroleum Engineering from UW must take the following required courses:

Plan A MS Courses Credits: 26

See Petroleum Engineering, M.S. program

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72

Students with an M.S. in Petroleum Engineering

All Petroleum Ph.D. students with an M.S. in Petroleum Engineering from another institution must take the following required courses:

Transferred MS Courses Approved by Student's Committee Credits: 14

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least four Core Courses from the following:*

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72 Hours

*Some or all of these credit hours can be transferred by petition, provided they are non-degree credits.

Students with an M.S. Degree in a Geoscience

All Petroleum Ph.D. students with an M.S. degree in a geoscience from another accredited institution must take the following required courses:

Transferred MS Courses Approved by Student's Committee Credits: 12

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least six Core Courses from the following:*

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

At Least Eight Additional Courses:

- Six (6) credits in advanced mathematics
- 18 credits in petroleum engineering

Petroleum Engineering Credits Include:

- PETE 5055 - Drilling Engineering Credits: 3
- PETE 5340 - Reservoir Engineering. Credits: 3
- PETE 5715 - Production Engineering Credits: 3

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 100 Hours

*Some or all of these credit hours can be transferred by petition, provided they are non-degree credits.

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890 - Petroleum Engineering Graduate Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by a faculty mentor will work with their mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and
- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The

Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

QuickStart Program

Petroleum Engineering Quick Start, B.S./M.S.

The BS/MS Quick Start program is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their BS degree in Petroleum Engineering. These students may apply for admission during their junior year.

Quick Start Program Requirements

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during their junior year or before starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

- Qualified students may receive provisional admission to the Petroleum Engineering graduate program prior to completing the normal application process. This provisional admission will permit students to make their long-term

educational plans earlier in their studies, thus providing enhanced opportunities for course selection and involvement in research.

- Students in the program may apply up to 6 credit hours of 5000-level courses toward both the B.S. and M.S. degree programs. By completing successfully up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergraduate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Quick Start Prerequisites

Cumulative GPA of 3.25.

PETE GPA of 3.50

3 letters of recommendation, at least 2 from PETE faculty at UW.

- PETE 3200 - Reservoir Engineering Credits: 3
  Prerequisite courses: PETE 2050 and PETE 3025
- PETE 3255 - Basic Drilling Engineering Credits: 3
  Prerequisite courses: ES 2330 and PETE 2050
- PETE 3715 - Production Engineering Credits: 3
  Prerequisite courses: ES 2310, ES 2330 and PETE 2050

Transfer Students' Requirements

Must have taken at least two of the three required PETE courses listed above at UW.

Transfer course work must be from an accredited institution and deemed equivalent to current UW PETE core courses.

Must have completed at least 15 credit hours of PETE course work at UW prior to starting the Quick Start program.

Quick Start Program Retention

Prior to completion of the BS degree, students must:

- Complete all requirements for admission to UW graduate school and the PETE graduate program.
- The Graduate Records Examination (GRE) requirement will be waived.
- Additional English proficiency testing for admission is also waived for international students.
- Maintain a cumulative GPA of at least 3.25 in their overall undergraduate program.
- Maintain a GPA of 3.5 in their PETE courses.
- Maintain a GPA of at least 3.0 in 5000-level (graduate) courses.

- Failure to complete graduate admission requirements prior to the start of the final year of undergraduate study will result in immediate suspension from the program.
- Failure to meet any GPA requirements places a student on academic probation for one semester.
- If the GPA requirement is still not met after academic probation, the student will be suspended from the program.

Department of Physics and Astronomy

204 Physical Sciences Building,
(307) 766-6150
FAX: (307) 766-2652
Web site: www.uwyo.edu/physics
Department Head: Jinke Tang

Professors:

MICHAEL S. BROTHERTON, B.S. Rice University 1990; M.A. University of Texas at Austin 1992; Ph.D. 1996; Professor of Physics and Astronomy 2014, 2002.

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Professor of Physics 2007, 2000.

TEYU CHIEN, B.S. National Taiwan Normal University 2001; Ph.D. University of Tennessee-Knoxville 2009; Professor of Physics 2019, 2013, 2023.

DANIEL A. DALE, B.S. University of Minnesota 1993; M.S. Cornell University 1996; Ph.D. 1998; Professor of Physics and Astronomy 2009, 2001.

HENRY A. KOBULNICKY, B.S. University of Iowa 1991; M.S. University of Minnesota 1993; Ph.D. 1997; Professor of Physics and Astronomy 2014, 2002.

ADAM D. MYERS, M.S. Durham University, United Kingdom 2000; Ph.D. 2004; Associate Professor of Physics and Astronomy 2017, 2011; Professor of Physics and Astronomy Fall 2022

H. EDWARD SEIDEL, B.S. College of William and Mary 1981; M.S. University of Pennsylvania 1983; Ph.D. Yale University 1988; Professor of Physics and Astronomy 2020.

JINKE TANG, B.S. Jilin University 1982; M.S. Iowa State University 1990; Ph.D. 1989; Professor of Physics 2007.

Associate Professors:

MICHAEL J. PIERCE, B.S. University of Oklahoma 1980; M.A. University of Hawaii 1983; Ph.D. 1988; Associate Professor of Physics and Astronomy 2005, 2001.

JIFA TIAN, B.S. Beijing Normal University 2003; Ph.D. University of Chinese Academy of Sciences/Institute of Physics, CAS 2009; Associate Professor of Physics 2018, 2023.

WENYONG WANG, B.S. Nankai University 1993; M.S. Yale University 1999; Ph.D. 2004; Associate Professor of Physics 2014, 2008.

Assistant Professors:

MERIDITH JOYCE, B.S. Bucknell University 2013; M.A. Dartmouth College 2015; Ph.D. Dartmouth College 2018; Assistant Professor of Physics and Astronomy 2024.

MAXWELL MOE, B.A./B.S. University of Colorado, Boulder 2009; M.A. Harvard University 2011; Ph.D. Harvard University 2015; Assistant Professor of Physics and Astronomy 2022.

ALEXANDER P. PETROVIC, B.A. & M.Phys. University of Cambridge 2003; M.A. (Cantab) 2006; Ph.D. University of Geneva 2009; Assistant Professor of Physics 2023.

YU-TSUNG TSAI, B.S. National Chiao Tung University 2004; M.S. 2006; Ph.D. University at Buffalo 2015; Assistant Professor of Physics 2024

Senior Academic Professional Lecturer:

RÜDIGER MICHALAK, Dipl. Phys FZ Julich 1989; Ph.D. 1993; Academic Professional Lecturer in Physics and Astronomy 2007, 2004.

Assistant Academic Professional Lecturers:

RICHARD E. BARRANS Jr., B.A. Johns Hopkins University 1985; Ph.D. California Institute of Technology 1993; M.Ed. John Carroll University 2004, Assistant Academic Lecturer in Physics and Astronomy 2013, 2023.

AYSENUR BICER, B.S. Ege University 2006; M.S. 2009; Ph.D. Texas A&M University 2018; Assistant Lecturer in Physics 2019.

Adjunct Professors:

GABRIELLE ALLEN, PU DU, PAUL MARQUARD, WILLIAM RICE, ZHAOHUI SHANG, TIM SLATER, HANNAH JANG-JANG-CONDELL, EDMUND SYNAKOWSKI, JIMMIE VERLEY

Professors Emeriti:

RONALD W. CANTERNA, PAUL E. JOHNSON, A.RAYMOND KUNSELMAN, TERRY P ROARK, JAMES M. ROSEN, DAVID R THAYER

Physics originated in antiquity as the study of natural philosophy. As such, it attempts to describe the universe within the context of both physical laws and the fundamental particles of nature. The broad scope of physics runs from the microscopic nuclear structure and that of the elementary particles themselves to the macroscopic, the galaxy and evolution of the universe as a whole. Today the subject is generally divided into broad areas such as condensed matter, nuclear, elementary particles, astrophysics, etc. The department maintains competence in most major branches of physics and offers instruction in these areas at both the undergraduate and graduate levels. In addition, it has a strong interest and involvement in science education.

Learning Outcomes

The B.S. and B.A. in Physics, the B.S. in Astronomy, and the B.A. in Physics and Physics Education all have the broad objectives enumerated below. These objectives are designed to promote the success of our majors in their chosen career path, whether that takes them into academia, secondary teaching, industry or further education:

- Provide students with problem-solving and data-manipulation skills appropriate to the growing range of scientific and technological careers in academia or industry.
- Develop students' oral, written, interpersonal and communication skills.

- Provide students with skills in experimental design, data collection, and data analysis through research experiences in a laboratory/computational/telescope setting.
- Educate students in the application of mathematical tools that will be useful for them to achieve success in a postcollege career.
- Provide a conceptual and analytical uderstanding of the core areas of physics and their specialty area.
- Provide students with an understanding of scientific reasoning, i.e., the roles of theory, hypothesis, and experiment in the scientific method.

The B.S. in Physics and the B.S. in Astronomy are primarily designed for students who wish to pursue post-graduate education or to have a more in-depth physics background. The Physics B.A. is primarily designed for students interested in pursuing a double major, or a professional career. The B.A. in Physics and Physics Education is structured for those interested in pursuing a secondary science teaching career.

Undergraduate Curriculum

The four-year physics programs are the Bachelor of Arts in physics and the Bachelor of Science in physics. The Bachelor of Science programs are intended for students who will pursue a career or a graduate degree in the field, whereas the Bachelor of Arts program is primarily geared toward those who are interested in pursuing physics as a second major. The department also offers a Bachelor of Science degree in Astronomy and Astrophysics.

Graduate Study

The Department of Physics and Astronomy offers the degrees of master of science in physics, master of science in teaching, and doctor of philosophy. Advanced degrees in physics may be based on experimental or theoretical research in physics or astrophysics.

Please refer to the departmental homepage at http://www.uwyo.edu/physics/ for the programmatic updates, or contact the department directly.

Program Specific Admission Requirements

We will begin to review applications in late January. Both the GRE general and physics subject exams are optional, and we will review all applications on their total merits. Students of all backgrounds, ethnicities, genders and countries of origin are encouraged to apply at http://www.uwyo.edu/admissions/apply-online.html

Applications should include:

-Resume or CV

-Undergraduate transcript

-A Personal Statement that says why you want to pursue a PhD, why Wyoming is a good fit for you, and what experiences you've previously had completing long-term projects

-Three letters of recommendation (this will be done through the application website)

-GRE scores Both the GRE general and physics subject exams are optional.

-TOEFL for non-native English speakers

-Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

The Physics and Astronomy Department commits to providing first- and second-year students with teaching assistantships for the nine-month academic year. More advanced students are generally supported on federal grants or fellowships. Both teaching and research assistantships carry a full tuition waiver and insurance. Summer assistantships are often available to students making satisfactory progress. Refer to http://www.uwyo.edu/physics/ for current amounts.

Major

Astronomy and Astrophysics, B.S.

The Bachelor of Science in Astronomy & Astrophysics program prepares students for graduate school, or a career in astronomy/astrophysics or a related field.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirement

Students in the Bachelor of Science in Astronomy major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- ASTR 1050 - Survey of Astronomy Credits: 4
- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4
- ASTR 4610 - Introduction to Astrophysics Credits: 3
- PHYS 1210 - Engineering Physics I Credits: 4

  OR
- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4420 - Electricity and Magnetism II Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3

Additional Description

See the "Prerequisite and MPE Cut Score Reference Chart" on the Math Placement website for the most up-to-date math placement equivalencies: http://www.uwyo.edu/mathstats/math-placement/.

For declared physics/astronomy majors, the prerequisite of Math 2200 for PHYS 1210 is waived and concurrent enrollment is approved.

For declared physics/astronomy majors, the prerequisite of Math 2205 for PHYS 1220 is waived and concurrent enrollment is approved.

If intending to apply to graduate school, plan to take the physics GRE by fall semester of the senior year

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. • Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions in the University Catalog and consult with their academic advisor to plan accordingly.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better.

Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major

The Bachelor of Science degree in astronomy and astrophysics is administered by the Department of Physics and Astronomy faculty. Please see the Physics and Astronomy listing in this *Catalog* for more information.

Physics, B.A.

The Bachelor of Arts (BA) in Physics degree program provides a pathway for more students to major in physics, as a second major to physical chemistry, mathematics, and engineering, for example.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

Students in the Bachelor of Arts in Physics major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4
  OR
- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
  OR
- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Electives

- Students are required to take at least 3 hours of electives from any PHYS 4000 or 5000 level course.

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions and consult with their academic advisor to plan accordingly.

A major requires 42 hours of upper division (3000 level or above) coursework, 30 of which must be from the University of Wyoming.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better. Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

For declared physics majors, the prerequisite of MATH 2200 for PHYS1210 -is waived and concurrent enrollment is approved.

For declared physics majors, the prerequisite of MATH 2205 for PHYS 1220- is waived and concurrent enrollment is approved.

If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.

Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take the necessary required courses (e.g. LIFE 1010, MOLB 3000 etc.)

Physics, B.S.

The Bachelor of Science in Physics program is intended for students who will pursue a career or a graduate degree in physics or related fields.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirement for Major in Physics

Students in the Bachelor of Science in Physics major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4
  OR
  PHYS1310 - College Physics I Credits 4
- PHYS 1220 - Engineering Physics II Credits: 4
  OR
  PHYS1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- PHYS 4420 - Electricity and Magnetism II Credits: 3
- PHYS 4830 - Mathematical and Computational Physics I Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3

Electives

Students are required to take at least 3 hours of electives from any PHYS 4000 or 5000 level course.

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions and consult with their academic advisor to plan accordingly.

A major requires 42 hours of upper-division (3000 level or above) coursework, 30 of which must be from the University of Wyoming.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better. Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

For declared physics majors, the prerequisite of MATH 2200 for PHYS 1210 is waived and concurrent enrollment is approved.

For declared physics majors, the prerequisite of MATH 2205 for PHYS 1220 is waived and concurrent enrollment is approved.

If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.

Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take the necessary required courses (e.g. LIFE 1010, MOLB 3000 etc.)

Minor

Astronomy Minor

A minor in astronomy appeals to students who have an interest in astronomy but intend to pursue a degree in some other field

Complete

- PHYS 1210 - Engineering Physics I Credits: 4
  OR
- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
  OR
- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4

Additional Requirements

Students minoring in Astronomy gain exposure to the principles of astronomy, physics, and mathematics. They learn to think critically and evaluate, interpret, and solve problems related to astronomical, as well as other technical and general scientific topics

Physics Minor

A minor in physics appeals to students who have an interest in physics but intend to pursue a degree in some other field.

Complete

- PHYS 1210 - Engineering Physics I Credits: 4

  OR
- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

  OR
- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3

At Least Two of the Following:

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3

Additional Requirements

The physics minor provides students with the fundamental concepts of physics beyond the introductory level. Through rigorous hands-on experience, students deepen their understanding of foundational concepts and develop their quantitative skills.

Quantum Information Science & Engineering, Minor

The field of quantum information science and engineering (QISE) is increasingly pivotal in technological and scientific innovations.

Core Courses

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2870 Quantum Mechanics for Non-physicists
- Introduction to Quantum Computing

Elective (Students pick one)

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4340 - Semiconductor Materials and Devices Credits: 3
- PHYS 4710 - Solid-State Physics Credits: 3
- PHYS 4720 - Solid State Electronic Devices Credits: 3

Graduate

Physics, M.S.

Thesis planning, development, and production guided by the committee chair and graduate committee.

The University of Wyoming Master of Science in Physics program prepares students for a wide range of exciting physics-related careers

Requirements

Plan A (Thesis)

- 26 hours of graduate coursework, 20 of which must be in PHYS/ASTR at the 5000-level
- 4 hours of PHYS 5960

Plan B (Non-Thesis)

- 30 hours of graduate coursework, 24 of which must be in PHYS/ASTR at the 5000-level

Physics, M.S.T.

The Master of Science in Teaching is designed for graduate students preparing to teach in secondary schools or in community colleges. It includes a small, carefully designed component in psychology and education as well as a supervised teaching experience. This program will require a thesis project based on experience in the classroom.

Thesis planning, development, and production guided by the committee chair and graduate committee.

Requirements

Plan A (Thesis)

- 18 hours from PHYS/ASTR at the 5000-level
- 12 hours from PSYC or the College of Education at the 4000- or 5000-level

Additional Requirements

The Master of Science in Physics with emphasis in Teaching is designed for graduate students preparing to teach in private secondary schools or in community colleges. It includes a small, carefully designed component in psychology and education, and includes experience as a teaching assistant. Students interested in this program should contact the current advisor, Prof. Tim Slater.

Physics, Ph.D.

During the first two years, students normally take physics and astronomy courses while working with faculty members on one or more research projects. Course work consists of several required courses plus a number of elective courses. Students participate in weekly research seminars and journal clubs to learn about a broad range of current research. By the third year, Ph.D. students begin research work in the area of their dissertation.

Ph.D. candidates demonstrate their competency in basic undergraduate physics and in required graduate courses through a written examination. After passing the written exam, students will take an oral preliminary exam based on a research project they have completed during the first two years. At the completion of the Ph.D. dissertation, a candidate makes a public presentation of his or her work and the committee conducts a final examination to award the degree.

Requirements

- 42 hours of graduate coursework
- 30 hours of PHYS 5980 or PHYS 5860. Dissertation planning, development, and production guided by the committee chair and graduate committee.

Tracks:

- Physics, Physics Track, Ph.D.
- Physics, Astronomy Track, Ph.D.

Additional Requirements

The Physics PhD program educates students to become scholars and researchers in physics. Our graduates are trained to teach and to carry out original research that is theoretical, experimental, computational, or a blend of these approaches.

School of Computing

Engineering Building, Room 4083
Phone: (307)766-5299 Email: uwyo-soc@uwyo.edu

Gabrielle Allen, Director
Website: www.uwyo.edu/soc

The School of Computing is a hub of innovation and knowledge exchange for computing and digital skills.

The school aims to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the computational tools, skills and approaches to drive transformation and innovation in the state. The School of Computing champions broader efforts to make the University of Wyoming more digital, inclusive, interdisciplinary, and entrepreneurial through computing partnerships across Wyoming.

Vision:

Create a unique and inspirational School of Computing with national impact and global reach, providing Wyoming and the world with agile and ethical computing professionals, empowered to address societal challenges that are inherently interdisciplinary.

Mission:

Position our land grant institution as: a national leader in computational and digital research, education, and engagement; a computational hub for students, faculty, staff, community, and our industry/state/academic partners; a steward, supporter, and developer of digital skills and computational thinking for all.

Values:

- Excellence in research, teaching, and engagement
- Partnership and collaboration
- Diversity, equity, and inclusion in computing
- Context-based experiential learning
- Computing across disciplines, including social sciences, arts, humanities and STEM

Centers:

WyGISC is an interdisciplinary research and education institute at the University of Wyoming. The Wyoming Geographic Information Science Center (WyGISC) is an interdisciplinary academic center focused on education, research and development of geospatial information and technologies and their applications in science, government, business, and other areas.

The Data Science Center provides an academic hub for data science at UW, providing the key academic component in a "UW Data Science Collaboratory" (DSC, Library, ARCC, WyGISC, WNA, Maker Space, Extension along with disciplinary partners including AHC, INBRE Data Core, WYNDD, RMH, 3D Viz, NSF WyACT, etc).

Engagement Programs:

Data Science Center Fellows

The Data Science Center supports two Faculty Fellows each academic year in pursuit of excellence in research, teaching, and engagement in data science at the University of Wyoming.

Faculty Fellows

The Faculty Fellows program supports projects that advance computing research, learning, and engagement across the university, with a focus on aligning with university initiatives, fostering applied computing, impacting student experiences, integrating the School of Computing, and promoting digital for all.

Graduate Computing Scholars

Graduate Computing Scholars are proudly supported for being outstanding graduate students demonstrating immense potential in their computational careers. They are enrolled in Ph.D. or Master's programs at the University of Wyoming, pursuing research projects where innovative computing and/or the advancement of computing play a crucial role.

UW Derecho Professors

The *UW Derecho Professor* designation provides named professors in any academic field with up to 5 million core hours of access to both traditional compute nodes and accelerators on the Derecho supercomputer at the NCAR Wyoming Supercomputing Center (NWSC). Leveraging and enhancing the UW-NCAR partnership, the initiative contributes to recruiting and retaining UW faculty whose research program in computing will be strengthened through a flexible and guaranteed allocation on this resource.

Visiting Scholars

Visiting Scholars are used to support short-term visiting scholars that are faculty, post-docs, or advanced graduate students (in the final 2 years of studies). The funds may be used to cover travel, lodging, and meal costs as well as a stipend for the visiting scholar.

Personnel:

All personnel affiliated with the School of Computing is listed accordingly at https://www.uwyo.edu/soc/people/index.html.

The People at the School of Computing webpage includes the Administrative Team, Advisory Board, Graduate Students (internal and external to the School), Faculty (Research Scientists, Core, Adjunct, and Post-Doctoral Associates), and UW Derecho Professors.

Accreditation:

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education.

Program Specific Admission Requirements (Undergraduate)

Undergraduate students apply for admission to the University of Wyoming and then declare a major or minor within SoC at any point during their course of study. To declare a major, students must meet with their SoC affiliated academic advisor. Any student wanting to add the SoC minor should consult an SoC affiliated advisor to streamline their program.

All SoC programs will emphasize experiential learning and encourage interdisciplinary courses when possible.

General Policies:

- A minimum 2.00 UW GPA is required to apply for the minor.
- It is the student's responsibility to monitor requirements for the minor, along with their advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the minor must be passed with a grade of "C" or better.

Program Specific Admission Requirements (Graduate)

Graduate GIST Certificates and Degrees - see https://www.uwyo.edu/wygisc/academics/graduate-programs/index.html

Major

Applied Software Development, B.S.

Combines practical experience and knowledge of modern programming languages, tools, and processes used in the rapidly evolving field of Software Development.

Wyoming Commmunity College Courses

At least 2 elective courses need to be upper division.

- USP FYS - First Year Seminar/USP Elective - Fall Year 1 - Credits: 3
- COSC 1010 - Intro to Computer Science - Fall Year 1 - Credits: 3
- INET 1650 - Web Programming I - Fall Year 1 - Credits: 3
- SDEV 1000 - Software Development Skills 1 - Fall Year 1 - Credits: 3
- MATH 1400 - College Algebra or higher for USP Q - Fall Year 1 - Credits: 3
- ENGL 1010 - College Composition and Rhetoric or higher for COM1 - Fall Year 1 - Credits:3

- SDEV 1200 - Programming Python - Spring Year 1 - Credits: 3
- COSC 2050 - Intro to SQL - Spring Year 1 - Credits: 3
- SDEV 1100 - Software Development Skills II - Spring Year 1 - Credits 3
- USP PN - Spring Year 1 - Credits 4
- USP COM2 - Spring Year 1 - Credits: 3
- INET 2010 - Data Driven Web Sites - Fall Year 2 - Credits: 3
- SDEV XXXX - 2100 Mobile Development or 2250 Web App Client Frameworks for elective - Fall Year 2 - Credits: 3
- SDEV 2150 - Agile Project Management - Fall Year 2 - Credits: 3
- USP H - Fall Year 2 - Credits: 3
- USP H - Fall Year 2 - Credits: 3
- SDEV 2395 - Software Development Capstone - Spring Year 2 - Credits: 3
- SDEV 2200 - Secure Software - Spring Year 2 - Credits: 3
- SDEV 2300 - DevOps - Spring Year 2 - Credits: 3
- USP V - US & WY Constitution - Spring Year 2 - Credits: 3
- STAT 2050 Fundamentals of Statistics - Spring Year 2 - Credits: 4
- **CC Total: 66 Credits**

University of Wyoming Courses

- PN - - Physical and Natural World (1) Credits: 3 Fall Year 3
- COSC 1030 - Computer Programming Credits: 4 Fall Year 3
- COMP 2000 - Computing and Society Credits: 2 Fall Year 3
- SDEV 3000 - Foundations of Software Systems Credits: 3 Fall Year 3
- Elective - Choose one course from (COMP, COSC, GIST, or SDEV) - Fall Year 3 - Credits: 3
- SDEV 2030 - Data Structures Credits: 1-4 Spring Year 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3 Spring Year 3
- SDEV 3011 - Introduction to Software Design Credits: 3 Spring Year 3
- SDEV 3100 - User Design Experience Credits: 3 Spring Year 3
- Elective - Choose 1 from (COMP, COSC, GIST, or SDEV) Spring Year 3 - Credits: 3
- SDEV 3765 - Computer Security Credits: 3 Fall Year 4
- SDEV 3020 - Applied Algorithms Credits: 3 Fall Year 4
- SDEV 3500 - Performance and Testing Credits: 3 Fall Year 4
- SDEV 4730 - Mobile Application Programming Credits: 3 Fall Year 4
- Elective - Choose 1 from (COMP, COSC, GIST, or SDEV) - Spring Year 3 - Credits: 3
- SDEV 4000 - Advanced Programming for Developers Credits: 3 Spring Year 4
- SDEV 4840 - Software Engineering Enviorments Credits: 4 Spring Year 4
- Elective - Choose 1 from (COMP, COSC, GIST or SDEV) - Spring Year 3 - Credits: 3
- COMP 4000 - Practicum I Credits: 4 Spring Year 4
- **UW Total: 61 Credits**
- **Grand Total: 127 Credits**

Geospatial Information Science and Technology, B.S.

The Bachelor of Science degree in Geosptatial Informatoin Science and Technology (GIST) provides a quality educational experience that combines proficiency in spatial thinking and geospatial data science analysis with fluency in geographic information systems, remote sensing, and data visualization.

Degree Requirements

This degree requires [120] credits, [42] of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Mathematics and Statistics Requirement: 9-10 credits

Students must complete 5-6 credits of mathematics and 4 credits of statistics by completing one of the following course combinations:

Mathematics requirement (fulfills USP Q requirement):

- MATH 1400 - College Algebra Credits: 3

AND

- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5

Statistics Requirement:

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Core Requirement: 26 Credits

Complete all courses

- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartography Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 3050 - Spatial Database Design and Management Credits: 3
- GIST 4780 - Capstone in GIS&T Credits: 3

Experiential Learning Requirement: 6 credits

Students must take 6 credits of experiential learning. This requirement can be met by taking 6 credits from one of the listed courses below, or a combination of credits equal to 6 from the listed courses below.

- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6

GIST Electives: 30 credits

Students must take 30 credits of GIST electives; up to 10 credits can be from GIST-related courses from other disciplines, with approval from their advisor; at least 18 of the 30 credits must be upper division (3000 or above). Current electives are listed below:

- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 4130 - Applied Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6

Discipline Concentration Requirement: 16-24 credits

GIST is best practiced with a specialized knowledge base outside of GIST. Students must declare a minor in another discipline or create discipline concentration outside of GIST, with approval of their advisor; a second major can also meet this requirement.

Minor

Computing Minor

The minor in computing encourages students to explore the application of computing and digital technologies in their major discipline and to prepare for careers that are impacted by new technology.

The minor focuses on providing broad and accessible opportunities for experiential learning and the acquisition of core computing competencies. The flexible nature of the minor allows students to tailor the program for their primary program of study and computing interest.

Additional Information

This minor is a new program housed within the School of Computing. Please contact us to discuss how to tailor these courses to your declared major.

CONTACT US:

School of Computing

Engineering Building, Room 4083
Phone: 1 (307) 766-5299
Email: uwyo-soc@uwyo.edu

Course Requirements

- COMP 2000 - Computing and Society Credits: 2
  OR discipline specific computing focused course on computing and society
- COMP 3000 - Basic Computing Credits: 3
  OR discipline specific foundational computing course
- COMP 3500 - Advanced Computing Credits: 3
  OR discipline specific depth of computing course
- COMP 4000 - Practicum I Credits: 4

  Computer Programing Course Credits: 3
  Computing Electives Credits: 3

Interdisciplinary Computational Science Graduate Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Graduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

Requirements

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn at least 12 credits in graduate level classes (5000).
- Within the 15 credits, the student must earn 6 credits outside of her/his department.
- Only grades of B or better will be accepted for a course counting towards the minor.
- For all students, the 15 hours of coursework will be divided into 9 credit hours of core courses and 6 credit hours of electives.

Core Courses

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
  OR
- COSC 5310 - Computational Methods in Applied Sciences I Credits: 3
- COSC 5010 - Graduate Topics in Computer Science Credits: 1-6
- MATH 5340 - Computational Methods II Credits: 3
  OR
- COSC 5340 - Computational Methods II Credits: 3

- BOT 4550 - Computational Biology Credits: 4
  OR
- BOT 5550 - Computational Biology Credits: 4

- GEOL 4030 - Groundwater Flow and Solute Transport Modeling Credits: 3
  OR
- GEOL 5030 - Groundwater Flow and Solute Transport Modeling Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3

Electives

- COSC 5110 - Analysis Of Algorithms Credits: 3
- STAT 5680 - Advanced Bayesian Statistics Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- High-Performance Computing in Geosciences, 2 hrs
- MATH 5320 - Mathematics Modeling of Processes Credits: 3

- CHEM 4560 - Molecular Modeling Credits: 3
  OR
- CHEM 5560 - Molecular Modeling Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3

Interdisciplinary Computational Science Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Undergraduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

The Undergraduate Minor in Computational Science is based on the following requirements:

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn 9 credits at the upper-division level (3000 or above).
- Within the 15 credits, the student must earn 6 credits outside of her/his major.
- Within the 15 credits, the student must earn at least 6 credits in core courses.
- Only grades of C or better will be accepted for the minor.

The 15 hours of coursework are divided between core and elective courses as listed below.

Core Courses

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3
  OR
- COSC 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3
- High-Performance Computing (Offered as a topics course).
- MATH 3340 - Introduction to Scientific Computing Credits: 3
  OR
- COSC 3340 - Introduction to Scientific Computing Credits: 3

- STAT 4460 - Statistical Software Credits: 1

Elective Courses

- BOT 4550 - Computational Biology Credits: 4
  OR
- BOT 5550 - Computational Biology Credits: 4
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- CHEM 4560 - Molecular Modeling Credits: 3
  OR
- CHEM 5560 - Molecular Modeling Credits: 3
- ES 3070 - C with Numerical Methods for Engineers
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3
- ME 4040 - Introduction to Finite Elements Credits: 3
- COSC 4820 - Database Systems Credits: 3

Graduate

Artificial Intelligence, M.S.

This program will be focus on advanced study and research in the field of AI including Explainable AI. It is designed to equip students with the necessary knowledge, skills, and expertise to understand, develop, and apply AI technologies in various disciplines.

Program Curriculum

Core Courses (12 credits)

The program begins with foundational courses covering essential AI topics, such as machine learning, computer vision, and data mining.

These courses provide a solid understanding of AI's fundamental principles and algorithms.

COSC 4550/5550 Introduction to Artificial Intelligence

COSC 4555/5555 Machine Learning

COSC 4557/5557 Practical Machine Learning

COSC 4570/STAT 4240/5240 Data Mining.

Elective Courses(12 credits for Plan A and 16 credits for Plan B).

Students can choose from various elective courses based on their interests and career goals. These courses may include specialized topics like deep learning, natural language processing, reinforcement learning, neural networks, robotics, AI ethics, AI in healthcare, AI for business, and intelligent agents. Electives allow students to deepen their knowledge in specific areas of AI that align with their research or professional interests.

PHIL 5440 Topics in the Philosophy of Mind

COSC 5560 Modern Robots and Softbots

Research Projects for Plan B Students:

Throughout the Plan B degree program, students are involved in research projects supervised by faculty members or industry experts. These projects provide hands-on experience designing and implementing AI systems, conducting

experiments, analyzing data, and addressing real-world AI challenges. Research projects often culminate in a final research paper.

Seminars (2 credits)

Regular seminars and workshops will be organized to expose students to the latest research advancements, emerging trends, and challenges in AI. Experts from academia, industry, and government will deliver talks and engage in discussions, allowing students to broaden their perspectives and stay updated with the evolving AI landscape. The SoC and EECS will host, cohost, or support tech talks, colloquia, or speaker series with discipline-specific and broad AI foci.

Year 1: Fall

- COSC 4550 - Introduction to Artificial Intelligence Credits: 3

  OR

  COMP 5300 Basic Computing II. Credits: 3; The overarching goal is that students understand how to use basic computational and digital tools and approaches to solve problems across scientific, social, and human domains. This course will allow students to explore or embed their desired contextual disciplines into the foundational concepts of the School of Computing. (This is not an established UW course yet; it is proposed for development in the SoC post-baccalaureate graduate certificate program).
- COSC 4555 - Machine Learning Credits: 3

  OR
- COSC 4557 - Practical Machine Learning Credits:
- STAT 4270 - Applied Bayesian Statistics Credits: 3

  OR
- STAT 5280 - Models for Hierarchical Data Credits: 3

  OR
- STAT 5380 - Bayesian Data Analysis Credits: 3

Year 1: Spring

- STAT 4240 - Data Mining Credits: 3

  Natural Language Processing (NLP). Credits: 3; Text preprocessing and tokenization, language modeling and syntactic analysis, named entity recognition and sentiment analysis, machine translation and question answering.

  OR
- COSC 5220 - Languages and Automata Credits: 3
- COSC 5540 - Computer Vision Credits: 3

Year 2: Fall

Deep Learning. 3 credits. Topics include neural networks and their architectures, convolutional neural networks (CNNs) for computer vision, recurrent neural networks (RNNs) for sequential data, and deep reinforcement learning

OR

- EE 5410 - Neural and Fuzzy Systems Credits: 3

  OR
- EE 5440 - Geometric/Deep Computer Vision Credits: 3
- COSC 5552 - Advanced Topics in AI Credits: 1-3

  OR

- **COMP 5350 Advanced Computing II.** Credits: 3; Students will learn how to use the digital tools available in their fields of study as well as understand the theory of how digital approaches and computational methods will change their fields in the future. This course allows for the depth of knowledge within any discipline to be computationally driven towards competency and fluency. (This is not an established UW course yet; it is proposed for development in the SoC post baccalaureate graduate certificate program)
- Other graduate electives with focus on AI or application of AI OR COSC.

  OR
- Seminars and Workshops. 2 Credits

Year 2: Spring

- COSC 5960 - Thesis Research Credits: 1-12
- Other graduate electives with a focus on AI or the application of AI OR COSC. Seminars and Workshops. 2 Credits.

Geospatial Information Science and Technology, Professional M.S.

The Professional Master's in Geospatial Information Science and Technology (GIST) provides working professionals or distance students the opportunity to develop and improve their geospatial knowledge and skills. Core courses cover GIS basics, geospatial programming, data visualization, enterprise systems, web GIS, and spatial modeling, while electives provide the chance to explore specific areas of interest. The Professional Master of Science Degree is delivered online and does not require a thesis.

Coursework

Core Requirements: 24 credits

Complete all core courses; (GIST 5002 must be taken twice).

- GIST 5002 - Geospatial Forum Credits: 1

  must be taken twice with second occurence in the same semester as GIST5780. **Credits / Units:** 1
- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5200 - Geographic Visualization Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3
- GIST 5280 - Navigating GIST Professions Credits: 1
- GIST 5300 - Web Mapping and Internet GIS Credits: 3
- GIST 5350 - Enterprise GIS Credits: 3
- GIST 5780 - GIS&T Capstone Credits: 3

Electives: 9 credits

Complete 9 credits of electives from GIST or interdisciplinary GIST-related courses (5000 or above) as approved by advisor.

Total Credits: 33

Geospatial Information Science and Technology, Research (Thesis) M.S.

The Research Master of Science in Geospatial Information Science and Technology gives students the opportunity to develop geospatial research and applied skills. Students complete core geospatial courses and a collaborate with a faculty advisor to complete a research thesis. This degree is delivered on the UW campus with options for online courses.

Coursework

Core Requirements: 13 credits

Complete all courses

- GIST 5002 - Geospatial Forum Credits: 1
- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5200 - Geographic Visualization Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

Electives: 15 credits

Students are required to take 15 credits of GIST or GIST-related elective courses (5000 or above) as approved by their faculty advisor and graduate research committee.

Research Requirement

Students are required to complete a minimum of 4 credits of thesis research (GIST5960). Students must also work with a faculty advisor and graduate research committee to conduct, complete, and defend a geospatial thesis project.

- GIST 5960 - GIST Thesis Research Credits: 1-12

Total Credits: 32 minimum

Quantum Information Science & Engineering, M.S.

The Master of Science in QISE program consists of two years of coursework, thesis research, research projects, and practical applications of QISE. The program will offer both Plan A and Plan B degrees, comprising 30 required credits.

Curriculum Map and Program Structure

The MS in QISE is a critical component of the EECS department's goal of developing a research program that is nationally and internationally competitive and relevant to Wyoming by focusing on a few specific areas that have significant anticipated funding growth and economically disruptive technologies. Those areas are (a) modern power grid data analysis and modeling, (b) Quantum machine learning, (c) Quantum security and Internet, and (d) Quantum financing.

The MS in QISE is also central to the aims of the School of Computing and Physics department to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the quantum computational tools, skills, and approaches to drive transformation and innovation in the state.

Year 1 Fall

- Quantum Mechanics for Non-Physicists* - Being developed for a Minor in QISE, Physics Dept
- EE 5885 - Introduction to Quantum Computing, Offered in Fall 2021, Fall 2022, and Spring 2024.
- Elective* Spring • Quantum Information Theory*
- Quantum Algorithms and Applications* •
- Elective - EE5885 - Quantum Optimization and Machine Learning* - To be offered in Fall 2024

Year 2 Fall

- Quantum Hardware and Technology*
- Research Methods*
- Elective* 130 Spring
- EE 5960 Thesis Research: Credits: 4; Designed for students involved in research for their thesis project. It is also used for students whose coursework is complete and who are writing their thesis.

* New Courses to be developed or under development

Certificate

Geographic Information Systems (GIS) Graduate Certificate

This 15-credit graduate certificate gives you a rigorous academic credential in GIS that includes exposure to fundamental and advanced concepts and the chance to pursue your own interests with generous elective opportunities.

Core Requirements (9 Credits)

Complete all courses

- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

Electives (6 Credits)

Choose from other GIST or interdisciplinary courses with GIS-related foci.

Total: 15 Credits

Geographic Information Systems (GIS) Undergraduate Certificate

The undergraduate certificate in GIS provides opportunities for students to add geospatial training to their majors. The GIS certificate requires three courses (10 credits). This certificate can be added to any major using the Change of Major form available at the Registrar's Office Online Forms and Petitions site.

Undergraduate Certificate in GIS

Complete all courses

- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Remote Sensing Graduate Certificate

Remote sensing scientists use data collected by satellites, aircraft, and Uncrewed Aerial Systems (drones) to address questions important for agriculture, natural resource and wildlife management, global change science, energy development and other applications. From Google Earth to complex spectral analysis, remote sensing is playing an increasingly important role in many fields. This 15-credit online graduate certificate teaches you the fundamentals of remote sensing and digital image processing, and the freedom to use elective courses to pursue your own interests in related topics.

Core Requirements (6 Credits)

Complete all courses

- GIST 5111 - Introduction to Remote Sensing Credits: 3
- GIST 5120 - Integration of RS and GIS Data Credits: 3

Electives (9 Credits)

- Choose from other remote sensing and UAS courses or interdisciplinary RS courses

Total: 15 Credits

Remote Sensing Undergraduate Certificate

The undergraduate certificate in Remote Sensing provides opportunites for students to add training in how to use and interpret imagery acquired from aircraft, satellites, or ground-based platforms. The Remote Sensing certificate has one required 3-credit course plus electives for a total of 9 credits. This certificate can be added to any major using the Change of Major form available at the Registrar's Office Online Forms and Petitions site.

Core Requirements (3 credits)

- GIST 3140 - Introduction to Remote Sensing Credits: 3

  OR one of the following courses
- GIST 4130 - Applied Remote Sensing Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

Electives (6 credits)

Select any remote sensing or UAS courses (6 credits)

Total: (9 credits)

Uncrewed Aerial Systems Graduate Certificate

In this certificate program, you will learn to safely use Uncrewed Aerial Systems (drones) and to collect and process geospatial data acquired by them. Demand for professionals trained to operate drones and process drone imagery is growing rapidly in agriculture, natural resource management, construction, energy, transportation, business, and many other fields. A significant aspect of this 11-credit online graduate certificate (with a 2-credit, field-based flight school) is to prepare you to become an FAA certified pilot and to use industry-standard image processing techniques.

Core Requirements (8 Credits)

Complete all courses

- GIST 5410 - UAS Sensors and Platforms Credits: 1
- GIST 5420 - UAS Mission Planning Credits: 1
- GIST 5430 - UAS Regulations and Safety Credits: 1
- GIST 5440 - UAS Ground School and Operations Credits: 2
  This course is a 3-day workshop taught on campus; offered twice per year.
- GIST 5450 - UAS Data Acquisition and Processing Credits: 3

Electives (3 Credits)

Choose from remote sensing courses or interdisciplinary UAS applications courses.

Total: 11 Credits

College of Health Sciences

College of Health Sciences

235 Health Sciences Center

Jacob Warren, Dean
Phone: (307)766-3495
Web site: www.uwyo.edu/hs

The College of Health Sciences is the place for students interested in improving and maintaining the physical, mental, and social health of others. We offer challenging degree programs in the health and wellness professions and serve as the gateway to schools of medicine, dentistry, physical and occupational therapy, physician's assistant study, optometry, and more.

Health sciences students receive not only a superior education from knowledgeable and caring faculty but also precise and personal guidance from conscientious advising personnel. Students benefit, too, from practical experiences that

help them refine and test the skills acquired in lectures and labs as well as opportunities to participate in dynamic, interdisciplinary research projects.

The college is also the home of the Wyoming Institute for Disabilities (WIND); two Family Medicine Residency Centers; and the WWAMI Medical Education Program.

We serve as the state certifying office for the Wyoming, Washington, Alaska, Montana, and Idaho (WWAMI) medical education contract program with the University of Washington School of Medicine; WYDENT, the dental education contract program with the University of Nebraska and Creighton University; and two programs for the Western Interstate Commission of Higher Education (WICHE): the Professional Student Exchange Program (PSEP) and the Western Regional Graduate Program (WRGP). Refer to the sections on WWAMI, WYDENT, and WICHE in this catalog for program descriptions or go to www.uwyo.edu/certwy.

Any student seeking admission to programs in the College of Health Sciences will be required to obtain a background check as specified by college policy. Please contact your school or division for specific information.

The College of Health Sciences retains the right to deny or revoke admission to any of its programs for academic, disciplinary, ethical, or professional standards reasons.

Programs of Study

Undergraduate Degrees

Majors

Dental Hygiene, B.S.D.H.

Kinesiology and Health Promotion, B.S.

Medical Laboratory Science, B.S.

Nursing, B.S.N., Basic BSN Option

Nursing, B.S.N., BRAND Option

Nursing, B.S.N., BSN Completion - ReNEW Option

Nursing, B.S.N., BSN Completion - RN-BSN Option

Physical Education Teacher Education K-12, B.S.

Social Work, B.S.W.

Speech, Language and Hearing Science, B.S.

Minor

Disability Studies Minor

Graduate Degrees

Master of Science

Health Services Administration
Nursing
Kinesiology and Health
Speech-Language Pathology

Master of Social Work

Professional Degrees

Doctor of Nursing Practice
Doctor of Pharmacy

Health Sciences and Pre-Professional Health Advising Office

Health Sciences Center, 112-114

The Health Sciences and Pre-Professional Health Advising Office (www.uwyo.edu/preprof/) provides pre-professional health advising to all UW students regardless of their academic majors, who are interested in pursuing future study in athletic training, chiropractic, dentistry, medicine, optometry, occupational therapy, physical therapy, physician assistant, or other health care careers such as public health or genetic counseling. A bachelor's degree is usually required for admission to a professional program. The University of Wyoming offers professional education in pharmacy, social work, speech-language pathology, and nursing, but not in other health care fields. Students may pursue any UW degree program in which they have an interest and at the same time complete the admissions requirements for the professional program they wish to attend. Students are advised by a career advisor from the Pre-Professional Health Advising Office as they work toward completing their academic and experiential prerequisites to become a strong applicant for a professional program. A primary advisor will also be assigned to each student for their degree program.

Through this office, pre-health students can access current information about admissions requirements, entrance examinations, the application process, professional program curricula, interviewing skills, and test preparation. Specific professional programs may have additional requirements; students are urged to check with the programs they wish to attend.

Information about and applications to certify Wyoming state residency for the WICHE PSEP program, the WWAMI Medical Education program, and the WYDENT dental education program may be found online at http://www.uwyo.edu/certwy.

Please view individual division and program pages list for full course and curriculum listings

Division of Communication Disorders

265 Health Sciences, (307) 766-6427

FAX: (307) 766-6829

Web site: www.uwyo.edu/comdis

Director: Mark Guiberson

Professors:

MARK GUIBERSON, B.A. University of Colorado 1997; M.A. 1999; Ph.D. Colorado State University 2006; Professor of Speech-Language Pathology 2019, 2011.

DOUGLAS PETERSEN, B.A. Utah State University 1999; M.Ed. Utah State University 2002; Ph.D. Utah State University 2010.

Associate Professors:

BREANNA KRUEGER, B.A. University of Wyoming 2007; M.A. University of Kansas 2011; M.A. 2013; Ph.D. 2017; Associate Professor 2023, 2017.

Assistant Professors:

KATELYN J. KOTLAREK, B.S. University of Wisconsin-Madison 2012; M.S. Florida State University 2014; Ph.D. East Carolina University 2019; Assistant Professor 2019.

ZOE KRIEGEL, B.S. Kent State University 2016; M.S. Bowling Green State University, 2018; Ph.D. Bowling Green State University, 2022.

AMY K. PETERSON, B.S. University of Wyoming 2008; M.S. University of Wyoming 2010; Ph.D. Utah State University, 2022.

Lecturers:

SHELLEY BARTON, B.A. University of Wyoming 2005; M.S. 2008; Instructor 2018.

ESTHER HARTSKY, B.A. Adams State University 2000; A.A.S. Pikes Peak Community College 2004; MA University of Northern Colorado 2021, Assistant Lecturer 2017.

KARLEE SMITH, B.S. University of Wyoming 2014; M.S. University of Wyoming 2013; Lecturer 2020.

Clinical Professors:

TERESA J. GARCIA, B.S. University of Wyoming 1989; M.S. 1991; Clinical Professor 2020, 2016, 1995.

Associate Clinical Professors:

CORRI SANDOVAL, B.S. University of Wyoming 2000; M.S. 2010; Associate Clinical Professor 2020.

Assistant Clinical Professors:

HEIDI CLARK, B.S. University of Virginia 1998; M.A. Kent State University 2000; Assistant Clinical Professor 2020.

HANNAH YOUNG, B.S. University of Wyoming 2015; M.S. Pennsylvania State University 2017; Assistant Clinical Professor.

Adjunct Clinical Instructor:

Melissa Denker, M.S., CCC-SLP

Professors Emeriti:

Michael A. Primus, Mary Hardin-Jones, David L. Jones

About the Division of Communication Disorders

The Division of Communication Disorders offers three academic programs: a certificate in American Sign Language Studies, a Bachelor's of Science (B.S.) degree in Speech, Language and Hearing Science, and a Master of Science (MS) degree in Speech- Language Pathology. Information on these programs can be found on the links on the bottom of this page. The Division is also home to the University of Wyoming Speech & Hearing Clinic. Information about the Division's Vision, Mission, and Strategic Plan can be found on the Division website, as well as important information about the Division's Diversity, Equity, and Inclusion statement (https://www.uwyo.edu/comdis/index.html).

Speech and Hearing Clinic

The UW Speech and Hearing Clinic is a training center for students from the Division of Communication Disorders, including B.S. students in the Speech, Language, and Hearing Sciences program and M.S. students in the Speech-Language Pathology program. Student clinical experiences occur under the direct supervision of state licensed and ASHA-certified speech-language pathologists (CCC-SLP) The clinic also provides audiology services from a ASHA-certified and state licensed audiologists (CCC- A). In addition to on-campus services, the clinic provides telepractice speech-language pathology services. Clinical services are available to students, faculty as well as the larger community. More information can be found on the UW Speech and Hearing Clinic website: https://www.uwyo.edu/comdis/uw-speech-and-hearing-clinic/index.html.

Major

Speech, Language and Hearing Science, B.S.

Learn about working with people to improve their speech, language, and hearing. Study American Sign Language. This pre-professional degree is preparation for application to a graduate studies in speech-language pathology, audiology, or other areas.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Courses required for major

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- PHYS 1050 - Concepts of Physics Credits: 4 (Meets Physical and Natural World USP requirement)
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- FCSC 2121 - Child Development Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- SPPA 1010 - Introduction to Communication Disorders Credits: 3
- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- SPPA 2210 - Phonetics Credits: 3
- SPPA 3160 - Speech and Language Development Credits: 4
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- SPPA 4240 - Speech and Language Disorders Across the Lifespan Credits: 3
- SPPA 4340 - Basic Audiology Credits: 3
- SPPA 4150 - Aural Rehabilitation Credits: 3
- SPPA 4250 - Clinical Methods Credits: 4
- SPPA 4380 - Neurological Basis of Communication Credits: 3

Elective Courses

Upper-Division Social Behavior Credits (choose one)

Choose one from the list below (students are responsible for knowing prerequisites for these courses).

- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- PSYC 4310 - Developmental Psychopathology Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3

Electives

Lower division (1/2000) open electives (student choice - any course that does not meet another university or major requirement): 24 credits

Upper division (3/4000) open elective (student choice - any course that does not meet another university or major requirement): 12 credits

Notes:

A grade of C or better must be earned in all SPPA courses; courses in the major must be taken for a letter grade unless offered for S/U only.

Speech, language, and hearing topic courses from community colleges do not transfer or count as course equivalents. Students can reference the UW Transfer Catalog to determine if an American Sign Language course taken elsewhere will transfer to UW as a course equivalent.

Due to degree and related accreditation requirements for this program, official grades recorded on a college transcript are required for the following courses (AP/IB scores can not be used):

- LIFE 1010
- STAT 2050
- PSYC 1000
- PHYS 1050 or CHEM 1020

Additional Information

The BS degree prepares students for graduate study in communication disorders disciplines. Students study the normal processes associated with understanding and producing speech and language. These include anatomy, physiology, and neurology. Students also learn about normal development of speech and language in children, and they are introduced to disorders and clinical methods. Courses in related areas, such as anatomy, psychology, child development, and statistics are also part of the program. Students may obtain initial clinical experiences through observing clinical practice or completing patient simulations as part of the senior year coursework.

The B.S. degree is considered pre-professional preparation for entrance into a graduate program in speech-language pathology, audiology, or related fields. A clinical graduate degree is required in order to become a speech-language pathologist or an audiologist. The B.S. degree at UW is not designed to meet requirements to become a speech-language pathology assistant (SLP-A), additional practicum and some coursework at another institution would be required to become an SLP-A. For information on SLP-A technical programs please visit ASHA.org.

Student Learning Objectives

The BS degree provides students with a broad-based foundation in the sciences and humanities, fundamental knowledge of human communication, communication development, and the nature of communication disorders across the lifespan. Specific learning objectives can be found on the BS program website. https://www.uwyo.edu/comdis/student-objectives-handbooks-manuals.html.

Criminal Background Check

Eligibility for the B.S. degree is contingent upon passing a criminal background check. Usually during the senior year, each student will be required to obtain, pay for, and pass a criminal background check as part of enrollment in advanced courses. These background checks are required in order to participate in any aspect of the UW Speech & Hearing Clinic. The results of the background check may impact a student's ability to complete the required coursework and obtain the degree. Please see the College of Health Sciences website for the policy and procedures document.

National Student Speech Language Hearing Association

Students can join the UW chapter of the National Student Speech Language Hearing Association (NSSLHA) to become a part of a community of students interested in communication sciences and disorders. Objectives are to promote and recognize scholastic achievement and to support clinical, research, and service endeavors.

Graduate

Speech-Language Pathology, M.S.

The Master's in Speech-Language Pathology (MS-SLP) is a full-time, two-year degree program consisting of ≈ 61 semester hours (SCH) of graduate study. The program is delivered in six consecutive semesters with full-time fall, spring and summer enrollment required. The program is classified as a residential program according to the criteria established by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA). This program incorporates a distance education component, involving one semester of online coursework and off-site clinical practicum, known as "community placement," completed during the fall semester of the second year.

Students in the MS-SLP program dedicate their "first year" (three semesters) to on-campus studies and clinical practicum at the University of Wyoming in Laramie. The "second year" (three semesters) consists of off-campus components, with students engaging in distance education coursework and clinical practicum during the fall. Full-time externships are undertaken in the spring and summer of the second year. While off-site clinical placements can be located anywhere in the United States, it's important to note that students are matched to clinical sites by the Speech Clinic Director, and existing agreements must be in place prior to students beginning their placements.

Accreditation

The Master's of Science (MS) education program in speech-language pathology {residential} at the University of Wyoming is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700.

Eligibility for Certification and Licensure

The Master of Science in Speech-Language Pathology is a professional degree program that leads to eligibility for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP), granted by the Council for Clinical Certification in Audiology and Speech-Language-Pathology (CFCC), which is a council serving the American Speech-Language Hearing Association. A supervised Clinical Fellowship (CF) is required beyond the graduate degree for certification. Graduates are also eligible for the Wyoming license in speech-language pathology.

Typical Programs of Study

There are two programs of study for the MS SLP program. Plan A is the thesis option (64-credit hour program), and Plan B is the non-thesis option (61-credit hour program). The Plan A (thesis) option requires 34 credits of graduate academic work, 4 credits of SPPA 5960 Thesis Research, and 26 credits of graduate clinical practicum. The Plan B

(non-thesis) option requires 34 credits of graduate academic work , 1 credit of research through SPPA 5961 Graduate Projects (Oral Comprehensive Exam), and 26 credits of graduate clinical practicum.

35-38 Hours of Graduate Academic Work and Research Usually Includes:

- SPPA 5020 - Phonological Assessment and Intervention Credits: 3
- SPPA 5140 - EBP and Evaluation Procedures in Communication Disorders Credits: 4
- SPPA 5280 - Early Language Intervention Credits: 3
- SPPA 5220 - Voice Disorders Credits: 3
- SPPA 5130 - Adult Neurogenic Disorders Credits: 3
- SPPA 5330 - School-Age Language Intervention Credits: 3
- SPPA 5120 - Stuttering Credits: 2
- SPPA 5110 - Craniofacial Disorders Credits: 2
- SPPA 5230 - Dysphagia Credits: 3
- SPPA 5100 - Motor Speech Disorders Credits: 3
- SPPA 5210 - Augmentative and Alternative Communication Credits: 2
- SPPA 5380 - Professional Practice Credits: 3
- Plan A students complete 4 credits of SPPA 5960 - Thesis Research Credits: 1-12
- Plan B students complete 1 credit of SPPA 5961 - Graduate Projects Credits: 1-4

26 Hours of Graduate Clinical Practicum Include:

- SPPA 5030 - Clinical Practicum Credits: 1-4
  (14 credits total required)
- SPPA 5270 - Educational Practicum Credits: 1-12
  (6 credits total required)
- SPPA 5290 - Medical Practicum Credits: 1-12
  (6 credits total required)

Note:

Note: Specific degree requirements (course name and content), may change based on departmental decisions or requirement changes from accreditation and licensure bodies.

Additional Information

Admissions to the M.S. Degree Program in Speech-Language Pathology

Admission to the master's program in speech-language pathology is made on a competitive basis. We accept students to start in the fall of each year. For application, admission, and a description of the program, see the division website. Applicants must have completed a bachelor's degree or equivalent from a regionally accredited institution. All applicants should have at least a 3.000 cumulative GPA (scale of 4.000).

Additional required undergraduate coursework and discipline specific coursework

Admitted students must also have taken required coursework in the 4 Foundational Areas (Biological Sciences, Physical Sciences, Social/Behavioral Sciences, and Statistics). For the UW M.S. SLP program, admitted students must also have completed coursework in phonetics; speech & language development; anatomy and physiology of speech, hearing, and swallowing; audiology; neural basis of communication; and aural rehabilitation. Coursework in each of these areas is needed in order to meet the requirements of the Council for Clinical Certification in Audiology and Speech-Language-Pathology (CFCC) certification requirements and/or in order to graduate from the UW MS SLP program. Students missing any of these courses must complete requirements in order to be considered eligible for the M.S. in SLP degree.

Applications to our master's program must be made through an electronic, centralized application service: the Communication Sciences and Disorders Centralized Application Service for Clinical Education in Audiology and Speech Language Pathology (CSDCAS). Instructions and application procedures are available at https://csdcas.liaisoncas.org/. Check the division web site in September for instructions.

Applicants will be notified of the division's decision on acceptance, alternate, or denial by mid-March. Applicants must respond to the offer by April 15. Alternates may be offered positions that become available after April 15.

International Students

For all International students, the university must determine whether financial resources are sufficient for study here. More information can be found on the UW International Students webpage.

English Language Proficiency

All applicants, regardless of citizenship, who do not possess a bachelor's degree from a post-secondary institution where English is the principal language must satisfy the English language proficiency requirement. The University of Wyoming and MS SLP program accept several English proficiency exams, including the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) exam, Duolingo, or Cambridge English score report. Score requirements for English proficiency exams are: TOEFL (540 or 76 minimum for iBT), IELTS (6.5 minimum), Duolingo (110), and Cambridge English B2 First, C1 Advanced or C2 Proficiency (176 minimum). The MS SLP program does not accept other options for satisfying the English proficiency admissions requirement. Official scores must be received by CSDCAS by January 15th.

Conditional Status

An applicant may be admitted conditionally if he or she does not meet the GPA requirements for full admission, and the Division determines that there are sufficient areas of strength for success in graduate school in comparison to other applicants. Conditions will be placed on admission such as graduate grade point average, performance criteria, or completion of certain courses.

Requirements Following Offer of Admission

Students who accept an offer of admission to the program must then provide numerous pieces of required documentation for admission to UW and program and will also need to be responsive to emails from the Division and faculty throughout onboarding.

Criminal Background Check

Admission to the graduate program in speech-language pathology is contingent upon passing a criminal background check. Each student recommended for admission into the program will be required to obtain, pay, and pass a criminal background check. Additional background checks are routinely required by schools, hospitals, and other agencies that participate in the clinical education of our students. The results of the background checks may determine admission and/or ability to complete the UW M.S. SLP program. Please see the College of Health Sciences web site for the policy and procedures document.

Vaccination Requirements

Students' admission to our program is contingent on verification of vaccinations. Students must submit MMR immunization to UW's Student Health Services. Students also must submit COVID-19 vaccination status, because that information is required for Centers for Medicare & Medicaid Services as part of the UW Speech & Hearing Clinic's billing for patients to that agency. Students should also know that external clinical placements often require updated background checks and have their own processes and guidelines for vaccination documents and requirements, these sites are not bound to the University of Wyoming determinations.

Graduate Student Outcome Data

As of September 2023, 98.08% of MS SLP students completed the program "on time" over the last three years at time of calculation, 100% obtained employment, and the reported Praxis Exam pass rate was 100%.

Program Specific Graduate Assistantships

Financial assistance for graduate students is available each year through the Division with assistantships and other funding. Typically, graduate assistantships include one-half tuition support and a monthly stipend. These assistantships require the student to spend 10 hours per week assisting faculty members in teaching and research. Graduate Assistantships and scholarship awards are competitive and based on past academic performance, evidence of professional promise, and letters of recommendation.

Differential Tuition

The graduate program in speech-language pathology has a differential tuition rate. See the Division website and/or fee book for details.

Certificate

American Sign Language Studies Certificate

Gain basic foundational skills in American Sign Language (ASL), understand sociocultural aspects of Deaf communities, teach other students the basics of ASL.

The American Sign Language Studies (ASL Studies) certificate provides a basic or beginning understanding of ASL and an introduction to Deaf sociocultural issues. The ASL Studies certificate may be helpful to anyone in the health and education fields in learning to communicate with and understand individuals who are Deaf. The certificate is a nominal recognition for students who wish to pursue more education in the fields of speech-language pathology, sign language interpreter, teacher of the deaf, preschool and K-12 education, audiology, nursing, counseling and other areas. The ASL Studies Certificate is not designed or adequate to meet educational requirements for any specific professional license or certification. The ASL Studies certificate from UW is a nominal recognition of basic or beginning ASL skills and Deaf

culture. It does not prepare or entitle a student or recipient for any certification or licensure from any state or national associates, agencies or governmental bodies. For more information on the ASL Studies learning objectives, see the website: http://www.uwyo.edu/comdis/american-sign-language/index.html.

ASL Studies Certificate Requirements:

Students must have earned a grade of A for all three language courses (SPPA 2110, SPPA 2120, and SPPA 4130) in order to be eligible for the certificate. ASL coursework needs to have been completed within the last 5 years in order to pursue the ASL Studies Certificate, exceptions can be granted if the student demonstrated adequate skills during a structured interview with a UW ASL instructor.

Course sequence for the certificate, 16 credits total:

- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- SPPA 4070 - Deaf Studies Credits: 3
- SPPA 4130 - Advanced ASL Credits: 4
- SPPA 4140 - Undergraduate Teaching Assistant Credits: 1

Division of Kinesiology and Health

Corbett Building, (307) 766-5284
FAX: (307) 766-4098
Web site: www.uwyo.edu/kandh
Director: Derek Smith

Professors:

TAMI BENHAM DEAL, B.S. Indiana University 1981; M.S. 1988; P.E.D. 1989; Professor of Kinesiology and Health 2012.

CHRISTINE M. PORTER, B.S. University of Maryland 1993; M.A. University of London 2002; Ph.D. Cornell University 2010; Professor of Kinesiology and Health 2021, 2016, 2010.

TRISTAN WALLHEAD, B.S. Loughborough University 1994; M.S. Leeds Metropolitan University 2000; Ph.D. Ohio State University 2004; Professor of Kinesiology and Health 2017, 2010, 2004.

QIN ZHU, B.S. Shanghai University of Sports 1999; M.Ed. 2002; Ph.D. Indiana University 2008; Professor of Kinesiology and Health 2020, 2014, 2008.

BOYI DAI, B.Ed. Beijing Sport University 2007; M.S. Iowa State University 2009; Ph.D. University of North Carolina at Chapel Hill 2012; Professor of Kinesiology and Health 2022, 2017, 2012.

BRYANT SMALLEY, B.S. Georgia Southern University 2002; M.S. Nova Southeastern University 2005; PhD Nova Southeastern University 2010.

JACOB WARREN, B.S. Georgia Southern University 2003; M.B.A. Georgia Southern University 2016, PhD Miami School of Medicine 2006

BRANT SCHUMAKER, B.S. University of California - Davis, 2001; D.V.M University of California - Davis, 2005; M.P.V.M. University of California - Davis, 2006; Ph.D. University of California - Davis, 2010; Professor of Kinesiology and Health 2022, 2016, 2010.

Associate Professors:

EVAN C. JOHNSON, B.A. The George Washington University 2004; M.A. University of Connecticut 2008; Ph.D. 2014; Associate Professor of Kinesiology and Health 2020, 2015.

DEREK SMITH, B.S. Colorado State University 1997; M.S. Wake Forest University 1999; Ph.D. University of Colorado 2003; Associate Professor of Kinesiology and Health 2009, 2003.

DANIELLE BRUNS, B.S. Linfield College-McMinnville 2008; M.S. Colorado State University 2010; Ph.D. 2013; Associate Professor of Kinesiology and Health 2018, 2022.

Assistant Professors:

BEN KERN, B.A. Western Colorado University 1999; M.A. Adams State University 2002; Ph.D. University of Illinois Urbana-Campaign 2017; Assistant Professor Kinesiology and Health 2020.

EMILY E. SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina at Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor of Kinesiology and Health 2018.

KELLY SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016; Ph.D. Louisiana State University 2018; Assistant Professor of Kinesiology and Health 2021.

LAUREN GILBERT, B.S. Marquette University, 2009; M.A. University of Florida, 2012; M.P.H. University of Florida, 2015; Ph.D. University of Florida, 2015; Assistant Professor of Kinesiology and Health, 2023.

Senior Lecturers:

MARCI SMITH, B.S. Colorado State University 1995; M.S. Wake Forest University 1998; Senior Lecturer in Kinesiology and Health 2015, 2003.

RACHEL WATSON, B.S. University of Denver 1998; M.S. University of Wyoming 2001; Senior Lecturer in Kinesiology and Health 2022.

Assistant Lecturers:

LACEY GAECHTER, B.A. University of Colorado 2004; M.S. University of Wyoming 2016; Assistant Lecturer in Kinesiology and Health 2021

SANDY GOHEEN-SMITH, B.S. Montana State University, Billings 1995; M.S. University of Wyoming 2015.

JACOB LAYER, B.A. Capital University 2015; M.S. University of Wyoming 2017

ALISA SICELOFF, VMD University of Pennsylvania 1997, Assistant Lecturer in Kinesiology and Health 2021

ANGELA SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016.

Adjunct Faculty:

MIKE COTTERMAN, SHANE TWEETER, GRETCHEN SEWCZAK-CLAUDE

Professors Emeriti:

Paul Dunham, Ward Gates, Charles W. Huff, Donna Marburger, D. Paul Thomas, Mark Byra, Jayne Jenkins

The Division of Kinesiology and Health offers the Kinesiology and Health (K&H) major and the Physical Education Teacher Education (PHET) major. These two majors prepare students for a variety of clinical and nonclinical settings including teaching physical and health education in schools K-12. Students enrolled in these programs must meet academic standards as determined by the Division of Kinesiology and Health, College of Health Sciences, and the University of Wyoming.

The K&H major prepares students for admission to physical therapy school and occupational therapy school, as well as other health professions (e.g., physician, physician assistant, dentist, chiropractor, optometrist, etc.). Approximately 60% of students majoring in K&H apply to one of these health professional schools once they have completed their B.S. degree in Kinesiology and Health. Other students majoring in training, fitness, recreation and leisure, and community and public health enter a very diverse job market.

The PHET program prepares students to teach physical and health education (PHET) in K-12 schools. The PHET major is a nationally recognized program for meeting the AAQEP/NASPE Initial Physical Education Teacher Education Accreditation Standards. This program offers individuals opportunity to combine certifications/endorsements in health education K-12, adapted physical education K-12, and coaching.

A graduate program leading to a Master of Science degree in Kinesiology and Health is offered by the Division.

Professional Program

Students who meet University of Wyoming entry requirements are admitted to the university in one of the two undergraduate majors that leads to the Bachelor of Science degree. The Division's undergraduate majors are open at the freshman level to all graduates of accredited high schools. Advanced placement for students with previous college credit is based on evaluation of transcripts of previous academic work.

Students in the Kinesiology & Health (K&H) program are ready to move forward in the junior year of the program when they complete the pre-requisite requirements to enroll in KIN 3021 and KIN 3022, Physiology of Exercise lecture and laboratory. To be eligible for the K&H Professional Program (junior/senior years), students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Advancement in the K&H Professional Program is complete once prerequisite criteria is met.

The entry course for admission to the Physical Education Teacher Education (PHET) program is KIN3012 - Teaching Laboratory I. To be eligible, for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Admission to the last two years of the PHET major is a competitive process and is only conducted for Fall semester. Application to the PHET majors is conducted only for fall. The application deadline is early April.

Undergraduate Majors

Kinesiology and Health Promotion, B.S.

Physical Education Teacher Education K-12, B.S.

Additional School Endorsments K-12

Adapted Physical Education K-12 Endorsement

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement / Permit

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

Graduate Study

Program Specific Admission Requirements

Admissions into the M.S. degree program are open to people who have obtained an undergraduate degree with a major program of study in exercise and sport science, health, kinesiology, physical education, or other areas in human movement sciences. Students who have undergraduate degrees in other areas may be required to complete additional courses, including Human Anatomy, Human System Physiology, Exercise Physiology, and other Kinesiology and Health classes recommended by the advisor. Individuals interested in applying are encouraged to contact the Graduate Program Coordinator, Dr. Boyi Dai (bdai@uwyo.edu), for more information.

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html): K&H supplemental application, transcripts, statement of intent, a sample of professional writing, and three letters of recommendation. Applications must be submitted no later than February 1 to be considered for Fall admission; Spring admissions are also considered on a case-by-case basis. More information about the application can be found on the Division's website (http://www.uwyo.edu/kandh/future-graduate/graduate-application.html).

A minimum of a 3.0 undergraduate cumulative GPA is also necessary for admission. GRE scores are not required for admission or graduate assistantship consideration but can be submitted to enhance the application. International students who are not native English speakers are required to provide proof of English proficiency: http://www.uwyo.edu/admissions/international/requirements-graduate.html. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also meet additional English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Polices in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

Graduate assistantships are available on a competitive basis. Teaching opportunities exist within the laboratory portions of the human anatomy and Kinesiology and Health courses and the teaching laboratory portions of the pedagogy practical courses. A graduate assistantship also involves some research opportunities with assigned graduate faculty advisors.

A stipend for a full-time graduate assistant is $12,825.00 per academic year. Tuition and fees are covered according to the percentage of assistantship allocated to the student.

Program Specific Degree Requirements Master's Programs

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Health Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, M.S. *Plan B (paper and experiential learning option)*

Kinesiology and Health Distance Education, M.S. *Plan B (paper)*

Major

Kinesiology and Health Promotion, B.S.

The B.S. in Kinesiology and Health Promotion degree prepares students for careers in clinical exercise physiology, health and movement coaching, biomechanics, nutrition, basic science, and behavioral science. The program is also excellent for students seeking to enter the field of medicine.

Degree Requirements

This degree requires 120 credits, 48 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Courses required for major

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
- CHEM 1000 - Introductory Chemistry Credits: 4 (Meets Physical and Natural World USP requirement)
  OR CHEM 1020 - General Chemistry I

- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- KIN 1006 - Introduction to Kinesiology and Health Credits: 1 Not required if student has taken KIN 1101 First-Year Seminar
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR STAT 2070 Introductory Statistics for the Social Sciences
- PHYS 1050 - Concepts of Physics Credits: 4
  OR PHYS 1110 General Physics I
- ZOO 3115 - Human Systems Physiology Credits: 4
- HLED 3020 - Community and Public Health Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
  A minimum cumulative GPA of 2.750 (preferred 3.000) is required before taking KIN 3021
- KIN 3022 - Lab Exp in Exercise Physiology Credits: 1 Taken concurrently with KIN 3021.
- KIN 3024 - Fundamentals of Health and Fitness Assessment Credits: 3
- KIN 3034 - Lifespan Motor Development Credits: 3
  OR KIN 4020 Motor Behavior
- KIN 3037 - Sport Psychology Credits: 3
  OR KIN 3038 Exercise Psychology
- KIN 3042 - Biomechanics of Human Movement Credits: 3
  Minimum of 6 hours total in:
- KIN 4015 - Internship Experience in Kinesiology Credits: 1-12
  OR
- HLED 4015 - Internship Experience in Health Credits: 1-12
  OR
- KIN 4016 - Research Experience in Kinesiology and Health Credits: 1-6
  OR
- HLED 4016 - Research Experience in Kinesiology and Health Credits: 3-6

Elective Courses

KIN/HLED Upper-Division Elective Coursework (15 credits)

15 credits of 3000-4000 level KIN/HLED elective coursework is required in addition to the required KIN & HLED courses listed above.

Consult with your advisor to see list of possible courses.

General Electives (25 credits)

Degree must include 120 credits, at least 48 of which must be upper-division credits.

KIN and HLED electives (i.e., non required courses) from above may be counted towards these 25 credits. KIN 2050 is recommended as one elective course.

Consult with your academic advisor and your pre-health advisor (if applicable). Pre-health students will need to take additional professional prerequisite courses as electives.

Additional Requirements

Students must complete 48 credit hours of upper division coursework (3000- or 4000-level courses) to meet the Division's minimum 48 credit hour requirement for the B.S. degree in Kinesiology and Health Promotion.

NOTE: Students should complete CPR & first aid certification and the certification should remain current throughout the program. Cards can be presented to the division registrar in Corbett 119 to be cleared of the requirement on the degree evaluation.

PRE-HEALTH ANNOUNCEMENT
This degree is great preparation for various careers in health care and allied health. If you are interested in becoming a strong applicant to graduate school for a career in these fields, please tell your primary advisor and connect with the Pre-Health Advising Office on campus as soon as possible: https://www.uwyo.edu/preprof/ or hsadvise@uwyo.edu Your career of choice will determine which math and science courses you need to take in your first years, so talk to them early!

Physical Education Teacher Education K-12, B.S.

The Physical Education program is a nationally accredited program where students learn the content and teaching methods required to be certified to teach physical education K-12 in the public schools of Wyoming.

Degree Requirements

This degree requires a minimum of 120 credits, 48 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites for Admission

Prerequisites for admission into the Physical Education Teacher Education program:

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
  OR MATH 1405 Trigonometry
- CHEM 1000 - Introductory Chemistry Credits: 4 (Meets Physical and Natural World USP requirement)
  OR CHEM 1020 - General Chemistry
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- PHYS 1050 - Concepts of Physics Credits: 4
  OR PHYS 1110 General Physics I
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR STAT 2070 Introductory Statistics for the Social Sciences
- ZOO 3115 - Human Systems Physiology Credits: 4
- EDSE 3540 - Teaching Reading and Study Strategies in the Content Areas Credits: 2-4
- KIN 2001 - Movement Core 1: Sport & Game-based Approaches in Physical Education Credits: 3
- KIN 2002 - Movement Core 2: Lifetime Physical Education Credits: 3
- KIN 2003 - Movement Core 3: Adventure and Outdoor Education Credits: 3
- KIN 2004 - Movement Core 4: Fundamental Movement Education Credits: 3

Required Courses After Admission

Required courses after admission into the professional program.

Consult with your academic advisor for the order in which these courses must be taken, or if you have any questions.

- KIN 3011 - Teaching Methods in Physical Education K-12 Credits: 3
- KIN 3012 - Teaching Laboratory I Credits: 3 (Meets USP Communication II requirement)
- KIN 3015 - Teaching Laboratory II Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3022 - Lab Exp in Exercise Physiology Credits: 1
  (KIN 4029 can be taken in place of KIN 3021 and KIN 3022)
- KIN 3034 - Lifespan Motor Development Credits: 3
- KIN 3037 - Sport Psychology Credits: 3
  OR
- KIN 3038 Exercise Psychology
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- KIN 3060 - Understanding Skill Acquisition for Teaching Credits: 3
- KIN 4012 - Curriculum Development in Physical Education Credits: 3
- KIN 4013 - School Administration for the Health Sciences Credits: 2
- KIN 4017 - Teaching Laboratory III Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4080 - Assessment in Physical Education Credits: 3 (Meets USP Communication III requirement)
- KIN 4099 - Student Teaching in Physical Education Credits: 1-16 ***

Note(s):

*** Note: Students must be certified in first aid and CPR prior to enrollment in KIN 4099.

Additional Requirements

Students must complete 48 credit hours of upper-division coursework (3000- or 4000-level courses) to meet the Division's requirement for the B.S. in Physical Education Teacher Education. For any elective coursework, it is recommended that these courses are selected from the Affiliated Options on this page.

In order to advance into the professional program, students must be admitted through a competitive application process. The entry course for admission to the Physical Education Teacher Education (PHET) program is KIN 3012, Teaching Lab 1. To be eligible for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000.

NOTE: Students should complete CPR certification and the certification should remain current throughout the program. Cards can be presented to the division registrar in Corbett 119 to be cleared of the requirement on the degree evaluation.

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement/Permit

Students who wish to qualify for an athletic coaching permit to coach in Wyoming public schools must complete four courses. Note: Endorsements are for current teachers. Permits are for those who are not a licensed educator.

- CPR Certification
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- Foundations of Coaching KIN 4090 /KIN 5090 - 3 Credit Hours
- Students completing the Physical Education Teacher Education undergraduate degree are exempt from the KIN 4090/5090 requirement.
- Coaching in... Experience (completed at a community college or complete a coaching experience in a specific sport for one season or more with a letter written by your supervising coach to submit with your PTSB endorsement application form).

School Health Education K-12

In addition to completing a bachelor's degree in teaching at the secondary level from an approved university program, 25 credit hours are required to be endorsed to teach health education K-12 in the public schools of Wyoming.

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- CPR Certification
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3

- PSYC 2210 - Drugs and Behavior Credits: 3

  OR
- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

Adapted Physical Education K-12 Endorsement

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for K-12 endorsements in adapted physical education and/or health education by completing the following course requirements:

- EDEX 2484 - Introduction to Special Education Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4065 - Resources in Adapted Physical Education Credits: 2-3
- KIN 4075 - Assessment in Adapted Physical Education Credits: 3

Graduate

Kinesiology and Health Distance Education, M.S.

Master of Science Distance Education Program is designed for teachers, coaches, and other health professionals to fit into their busy schedules. Students can complete the Master of Science degree via synchronous or online modalities in a three, four, or five year period of time.

Plan B (Paper)

General Information

Teachers of health and physical education typically teach throughout the day and coach during the evenings and weekends. Therefore, traditional on campus Master's degree programs that require students to attend the University of Wyoming in Laramie are often simply impossible for teachers and other health professionals to fit into their busy schedule.

The Division of Kinesiology and Health offers the Master of Science degree in Kinesiology and Health as an off-campus, distance education program. All courses are delivered via synchronous or online modalities. The distance education program is designed such that you can complete the Master of Science degree in a three, four, or five year period of time.

This program involves a minimum of thirty (30) total credit hours of coursework and a culminating paper or case study presentation (experiential learning option) that is developed on a topic selected by the student in conjunction with her or his graduate faculty advisor. The process for composing the culminating paper or case study includes the development of a prospectus and final presentation of the paper or case study. Students who elect the experiential learning option will also be required to complete an internship or research experience. In addition to the nine (9) hours of general required courses, at least twelve (12) credit hours of other courses must be HLED and KIN courses.

General Required Courses (9 Credits)

[1] May substitute EDRE 5530

- KIN 5080 - Investigations in Kinesiology and Health Credits: 1-3 (3 credits required)
- KIN 5085 - Research Methods Credits: 3 [1]

- EDRE 5600 - Introduction to Quantitative Research Credits: 3

  OR
- EDRE 5640 - Introduction to Qualitative Research Credits: 3

Kinesiology and Health Electives (15 Credits)

12 credits selected from the following KIN courses:

- KIN 5011 - Teacher Socialization in PE Credits: 3
- KIN 5014 - Teaching Tactics in Sport-Based Physical Education Credits: 3
- KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education Credits: 3
- KIN 5018 - Psychology of Teaching Physical Education Credits: 3
- KIN 5019 - Instructional Models for Physical Education Credits: 3
- KIN 5090 - Foundations of Coaching Credits: 3

Elective Courses (6 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Investigation in Kinesiology and Health: Maximum of 3 credit hours of Investigation in Kinesiology and Health (KIN 5080) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Thesis Research: No credit hours of Thesis Research (KIN 5960) may contribute to the Plan B Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097 /KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900 /KIN 5900) or KIN 5990 - Internship may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S.

Master of Science with Emphasis in Exercise and Sport Science is designed for students who want to pursue doctoral degrees and careers in exercise physiology, biomechanics, exercise and sport psychology, motor learning and control, physical activity and lifespan development, etc.

Plan A (Thesis)

The Plan A option of the Master of Science degree in ESS is designed to prepare students for careers in one of the subdisciplines (e.g., exercise physiology, biomechanics, exercise and sport psychology, motor learning and control, physical activity and lifespan development, etc.).

All students complete a series of general required courses and a concentration of courses in their specific ESS subdiscipline. The ESS area of emphasis involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080; or EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Area of specialization will include three to five courses (9-15 hours) within the student's chosen ESS subdiscipline. Your advisor will identify courses to be taken specific to the selected area of emphasis.

Elective Courses (Minimum 6 Credits)

- Students are encouraged to complete at least one of their elective course selections from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.

- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (KIN 5900) or Internship (KIN 5990) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Health Emphasis, M.S.

Master of Science with Emphasis in Health is designed to prepare students for careers in public and community health settings.

Plan A (Thesis)

The Plan A option of the Master of Science degree in the area of HLED is designed to prepare students for careers in public and community health settings. All students complete a series of general required courses and a concentration of courses in the area of HLED.

The HLED area of emphasis involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least twelve (12) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070 or STAT 5080 ,EDRE 5640 or EDRE 5660. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Coursework will include three to five courses (9-15 hours). Your advisor will identify courses to be taken.

Elective Courses (Minimum 6 Credits)

- Students are encouraged to complete at least one of their elective course selections from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, M.S.

Master of Science, Plan B, is designed for students who are seeking a terminal degree in Kinesiology and Health. This option is not designed for students seeking to pursue a doctoral degree at the completion of the Master of Science degree.

Plan B (Paper and Experiential Learning Option)

The Plan B option of the Master of Science degree in Kinesiology and Health is designed to prepare students who are seeking a terminal degree. This option is not designed for students seeking to pursue a doctoral degree at the completion of the Master of Science degree in Kinesiology and Health.

This program involves a minimum of thirty (30) total credit hours of coursework and a culminating paper or case study presentation (experiential learning option) that is developed on a topic selected by the student in conjunction with her or his graduate faculty advisor. The process for composing the culminating paper or case study includes the development of a prospectus and final presentation of the paper or case study. Students who elect the experiential learning option will also be required to complete an internship or research experience. In addition to the nine (9) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (9 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080 , EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5080 - Investigations in Kinesiology and Health Credits: 1-3 (3 credits required)
- KIN 5085 - Research Methods Credits: 3
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Area of specialization will include three to five courses (9-15 hours) within the student's chosen ESS subdiscipline. Your advisor will identify courses to be taken specific to the selected area of emphasis.

Elective Courses (Minimum of 6 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Investigation in Kinesiology and Health: Maximum of 3 credit hours of Investigation in Kinesiology and Health (KIN 5080) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Thesis Research: No credit hours of Thesis Research (KIN 5960) may contribute to the Plan B Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097 /KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900 /KIN 5900) or KIN 5990 - Internship may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S.

Master of Science with Emphasis in Physical Education Teacher Education is designed for teachers who have attained their licensure for teaching physical education and want to pursue an advanced degree to further develop their professional knowledge of teaching.

Plan A (Thesis)

The Plan A option of the Master of Science degree in the area of PETE is for teachers who have attained their licensure for teaching physical education and want to pursue an advanced degree to further develop their professional knowledge of teaching.

The PETE program of studies involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080; or EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3 or EDRE 5530 - Introduction To Research Credits: 3.
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 or EDRE 5550 - Action Research Credits: 3. [1]

Specialized Required Courses

(12 Credits Selected from The Following KIN Courses)

- KIN 5011 - Teacher Socialization in PE Credits: 3
- KIN 5014 - Teaching Tactics in Sport-Based Physical Education Credits: 3
- KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education Credits: 3
- KIN 5018 - Psychology of Teaching Physical Education Credits: 3
- KIN 5019 - Instructional Models for Physical Education Credits: 3
- KIN 5090 - Foundations of Coaching Credits: 3

Elective Courses (Minimum 8 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/HLED 5587) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of KIN 5900 - Practicum in College Teaching or KIN 5990 - Internship may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Certificate

Community and Public Health

This certificate covers foundational public health concepts, use of epidemiological data, designing evidence-based projects and community collaborations, and building public, political and financial support for public health.

Required Courses

Students must earn a B or better (an A or a B) in all four classes to earn the certificate.

- HLED 5021 - Creating Conditions for Community Health Credits: 3
- HLED 5022 - Unlocking the Potential of Public Health Credits: 3
- HLED 5023 - Using Epidemiology to Build Health Credits: 3
- HLED 5024 - Increasing Support for PH Credits: 3

  Students may either earn a 12-credit *University Graduate Certificate in Community & Public Health* or a 15-credit *University Graduate Certificate in Community & Public Health, Specializing in [Specialization Name]*.

Approved specialization courses include:

- HLED 5020 - Food, Health, and Justice Credits: 3
- HLED 5026 - Rural Community Health Credits: 3
- HLED 5027 - Emergency Prep and Response Credits: 3

  Additional specialization courses may be approved by Community & Public Health faculty.
- HLED 5810 - Environmental Health Credits: 3

  OR
- ENR 5810 - Environmental Health Credits: 3

Endorsement

Adapted Physical Education K-12 Endorsement

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for a K-12 endorsement in adapted physical education by completing the following course requirements:

Course Requirements

- EDEX 2484 - Introduction to Special Education Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4065 - Resources in Adapted Physical Education Credits: 2-3
- KIN 4075 - Assessment in Adapted Physical Education Credits: 3

Athletic Coaching Endorsement/Permit

Students who wish to qualify for an athletic coaching endorsement/permit to coach in Wyoming public schools must complete CPR certification and three courses. Note: Endorsements are for current teachers. Permits are for those who are not a licensed educator.

Course Requirements

- CPR Certification
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- Foundations of Coaching KIN 4090 /KIN 5090 Credits: 3
- Students completing the Physical Education Teacher Education undergraduate degree are exempt from the KIN 4090/5090 requirement.
- Coaching in... Experience (completed at a community college or complete a coaching experience in a specific sport for one season or more with a letter written by your supervising coach to submit with your PTSB endorsement application form).

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

In addition to completing a bachelor's degree in teaching at the secondary level from an approved university program, 21 credit hours are required to be endorsed to teach health education grades K-12 in the public schools of Wyoming.

Course Requirements

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- CPR Certification
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3

  OR
- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for a grades K-12 endorsement in health education by completing the following course requirements:

Course Requirements

- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3

  OR
- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

Division of Medical Education

Family Medicine Residency Programs

https://acalogcatalog.uwyo.edu/preview_entity.php?catoid=9&ent_oid=1779&returnto=964

Designated Institutional Officer: Beth Robitaille

(307) 234-6161

Casper: Brian Veauthier, Director

(307) 234-6161
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Professors:

JAIME HORNECKER, B.S. Texas Tech University 1999; PharmD University of Wyoming 2003; Clinical Professor of Pharmacy Practice, School of Pharmacy, Family Medicine, Casper.

MICHAEL MILLER, B.A. Wheaton College 1992; D.O. Kirksville College of Osteopathic Medicine 2000, Clinical Professor of Family Medicine, Casper.

BETH ROBITAILLE, B.A. University of Notre Dame 1991; M.D. Creighton University School of Medicine 1995; Clinical Professor of Family Medicine, Casper.

BRIAN M. VEAUTHIER, B.S. University of Notre Dame 1996; M.D. Georgetown University School of Medicine 2001; Clinical Professor of Family Medicine, Casper.

Associate Professors:

ZACH DEISS, B.A. University of Wyoming 1979; M.D. Creighton University School of Medicine 1987; Clinical Associate Professor of Family Medicine, Casper.

RONALD L. MALM, B.S. University of Wyoming 1988; D.O. The University of Health Sciences, College of Osteopathic Medicine 1992; Clinical Associate Professor of Family Medicine, Cheyenne.

LEENA MYRAN, B.S. University of Wyoming 2012; PharmD. University of Wyoming School of Pharmacy 2012; Clinical Associate Professor of Pharmacy Practice, Family Medicine, Casper.

SHARON KARNES, B.S. University of Washington School of Medicine 1997; M.D. University of Washington School of Medicine 2001; Clinical Associate Professor of Family Medicine, Casper.

CAROLINE KIRSCH, B.S. University of Wyoming 1993, 2002; M.S. University of Wyoming 1996; D.O. New York College of Osteopathic Medicine 2007; Clinical Associate Professor of Family Medicine, Casper.

CYNTHIA WORKS, B.A. Creighton University 1981; M.D. University of Arizona College of Medicine 1985; Clinical Associate Professor of Family Medicine, Casper

Assistant Professors:

RITA BARRY DO, Assistant Professor at Cheyenne program - University of Oregon Bachelors in Biochemistry 2012, Oregon Health and Science University Doctorate of Medicine 2017

JODY COUSINS MD, Assistant Professor at Cheyenne program - University of Wyoming Bachelors of Science in Psychology 1999, University of Washington School of Medicine 2006 Doctorate of Medicine

JAMES EGGERT, MD, Assistant Professor at Cheyenne program - University of California 2010 Bachelors in Bioengineering : Premedical, San Juan Bautista School of Medicine 2019 Doctorate of Medicine

BLAINE LEVY, B.S. Midwestern University 2008; D.O. Arizona College of Osteopathic Medicine of Midwestern University 2012; Clinical Assistant Professor of Family Medicine, Casper.

EVAN NORBY, B.S. Brigham Young University 2007; D.O. Arizona College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Cheyenne.

LAVINIA SALAMA PhD, Assistant Professor at Cheyenne program - -Doctor of pharmacy (PharmD) with concentration in nephrology, Albany College of Pharmacy and Health Sciences in Albany, NY- May 2020, -PGY1: general residency at Southeast Hospital in Cape Girardeau, MO - June 2021, PGY2 in Ambulatory Care at Albany College of Pharmacy and Health Sciences - July 2022

TABITHA THRASHER, B.S. University of Central Missouri 2001; D.O. Rocky Vista College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Casper.

Lecturers

LAURA CAPASSO, B.A. University of Wyoming 2012; M.S. University of Wyoming 2014; Ph.D. University of Northern Colorado, 2019; Assistant Lecturer, Family Medicine, Cheyenne.

BURL MAURER, B.A. Kennesaw College 1984; M.S.W. University of GA School of Social Work 1988; Associate Lecturer, Family Medicine, Casper.

PAMELA OILER, B.S.W. University of Wyoming 1999; M.S.W. Colorado State University 2005; Associate Lecturer, Family Medicine, Cheyenne.

To address the need for broadly trained primary care physicians in Wyoming, the Wyoming Legislature established two residency programs in the specialty of family medicine. These two accredited, university-administered, community-hospital based family medicine residency programs are located in Casper and Cheyenne. They enroll up to 42 residents (14 in each of three years). The two family medicine centers maintain a 1:4 faculty to resident ratio. The program at Casper began in 1976 and is affiliated with Wyoming Medical Center. The program utilized the services and facilities provided by the Educational Health Center of Wyoming. The Rural Training Track Program is a partnership with the Casper core program and Hot Springs County Memorial Hospital that provides a unique, hands-on experience for rural practice by training in the rural community of Thermopolis, Wyoming. It enrolls up to 3 residents (1 in each of three years). Casper's Geriatric fellowship is Wyoming's only post-graduate medical education training program. The fellowship provides training specialized in geriatrics to produce Board-certified geriatricians to care for the state's aging population. The Cheyenne program became active in 1980 and is affiliated with Cheyenne Regional Medical Center. The program utilizes the services and facilities provided by the Educational Health Center of Wyoming and has a close working relationship with the Veterans Administration Hospital. Both centers include spacious examining rooms; treatment and casting rooms; x-ray facilities; offices for faculty, residents and staff; complete laboratories; multiphasic research areas; conference rooms; business offices and roomy waiting rooms with play areas in the clinical component. In the educational component, both include large auditoriums; learning resource centers and administrative offices. Particular emphasis in both centers is placed on preparing physicians for rural practice and other facets of medical practice that are unique to Wyoming.

WWAMI Medical Education Program

Laramie: TBD, Director
(307) 766-2496 (Front Office)
John Willford, Assistant Director
(307) 766-4249
Web site: www.uwyo.edu/wwami

Associate Professors

CAMERON WALKER, B.S. Iowa State University of Science and Technology 1996; M.A. Iowa State University of Science and Technology 2000; Ph.D. University of Oregon 2006; Clinical Associate Professor, WWAMI.

JOHN WILLFORD, B.S. University of Wyoming 2005; Ph.D. University of Wyoming 2008; Clinical Associate Professor, WWAMI.

Assistant Professors

DANIELLE BRUNS, B.S. Linfield College 2008; M.S. Colorado State University 2010; Ph.D. Colorado State University 2013; Assistant Professor Kinesiology & Health, WWAMI.

ESTHER GILMAN-KEHRER, B.S. University of Wyoming 1986; M.S. University of Wyoming 1998; Post-Master's F.N.P. University of Colorado 2000; Post-Master's Nurse Midwifery 2002; D.N.P. University of Colorado 2012; Clinical Assistant Professor, Fay W. Whitney School of Nursing, WWAMI.

DANA GOVAERTS, B.S. University of Nebraska 1988; M.D. University of Nebraska Medical Center 1992; Clinical Assistant Professor, WWAMI.

DANIEL RADOSEVICH, B.S. University of Wyoming 1985; M.D. University of Colorado Medical School 1991; Clinical Assistant Professor, WWAMI.

EMILY SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina-Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor Kinesiology & Health, WWAMI.

The University of Wyoming medical contract program enhances medical education opportunities for Wyoming residents. In March 1996, the University of Wyoming became a partner in the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) Program. The WWAMI program is Wyoming's medical school and the program delivers the first two years of the University of Washington School of Medicine (UWSOM) medical school curriculum on the University of Wyoming campus. The remaining two years of the curriculum are spent in clinical rotations throughout the five-state WWAMI region. Twenty Wyoming residents are accepted into the WWAMI program each year and receive their M.D. degree from the UWSOM. For further information, contact the Wyoming WWAMI Office, College of Health Sciences, Laramie, Wyoming 82071, (307) 766-2496.

Wyoming WWAMI Medical Education Program

FIRST YEAR: Summer Hrs.

HM 6710.....9

FIRST YEAR: Fall Hrs.

HM 6603.....2

HM 6720.....7

HM 6730.....7

Total Hrs. 16

FIRST YEAR: Spring Hrs.

HM 6602.....2

HM 6603.....2

HM 6740.....5

HM 6750.....5

HM 6755.....1

HM 6760.....6

HM 6770.....5

Total Hrs. 26

SECOND YEAR: Fall Hrs.

HM 6602.....2

HM 6603.....2

HM 6775.....3

HM 6800.....7

HM 6900.....5

Total Hrs. 19

Graduate

WWAMI Medical Education

The WWAMI Med Ed Program is Wyoming's medical school. Through the University of Washington School of Medicine, foundation phase is in Laramie at UW, clinical phase is in the WWAMI region.

Degree Requirements

Degree requires [70] foundation phase credits, all upper-division credits.

Required Courses

- HM 6710 - Fund. Medical Sci. & Research Credits: 9
- HM 6603 - Clinical Studies Credits: 2 (6 credits required)
- HM 6720 - Infection & Immunity Credits: 7
- HM 6730 - Cancer, Hormones & Blood1 Credits: 7
- HM 6740 - Muscles, Joints, Bones, & Skin Credits: 5
- HM 6602 - Introductory Primary and Continuity Care Clerkship Credits: 2 (4 credits required)
- HM 6750 - Cardiovascular System Credits: 5
- HM 6755 - Medicine, Health, & Society 1 Credits: 1
- HM 6760 - Respiration and Regulation Credits: 6
- HM 6770 - Head, Neck, & Gut Credits: 5
- HM 6775 - Medicine, Health, & Society 2 Credits: 3
- HM 6800 - Mind, Brain, & Behavior Credits: 7
- HM 6900 - Life Cycles and Reproduction Credits: 5

Total Hrs. 70

Fay W. Whitney School of Nursing

351A Health Sciences Center,
(307) 766-4312
FAX: (307) 766-4294
Web site: www.uwyo.edu/Nursing
Dean: Sherrill J. Smith
Associate Dean: Karen L. Gorton

Professors:

ANN MARIE HART, B.S.N. Medical College of Virginia 1991; M.S. University of Wyoming 1996; Ph.D. University of Colorado Health Sciences Center Denver 2003; Professor of Nursing 2015.

SHERRILL J. SMITH, B.S.N. University of Wisconsin-Eau Claire 1985; M.S. Wright State University 1997; Ph.D. University of Northern Colorado 2008; Professor of Nursing 2019; Dean of Nursing 2019.

JENIFER THOMAS, B.S. Colorado State University 1994; M.S. Avila University 2000; M.S. Colorado State Unviersity2007; Ph.D. 2008; Professor of Nursing 2023.

Associate Professors:

REBECCA CARRON, B.S.N. Texas Christian University 1976; B.A. University of Wyoming, 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

KAREN GORTON, B.S. Wheaton College, 1986; M.S. Indiana University, 1988; B.S.N. Carroll College/Columbia College of Nursing 1988; M.S.N. University of Wisconsin - Milwaukee 2003; Ph.D. University of Northern Colorado 2010; Associate Professor of Nursing 2023.

JANET WILLHAUS, B.S.N. University of Kansas 1985; M.S. Fort Hays State University 2008: Ph.D. Washington State University 2013; Associate Professor of Nursing 2020.

Assistant Professors:

JENNIFER M. STEPHENS, B.S.N. Texas Christian University 1976; B.A. University of Wyoming 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

Clinical Associate Professors:

ESTHER GILMAN-KEHRER, B.S.N. University of Wyoming 1986; M.S. 1998; D.N.P. University of Colorado 2012; Clinical Associate Professor 2021.

NANCY MCGEE, B.S.N. University of Wyoming 2005; M.S. 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

J'LAINE PROCTOR, B.S.N. University of Wyoming 2000; M.S. 2003; Certificate-PMHNP 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

Clinical Assistant Professors:

NANCY "NIKI" EISENMANN, B.S.N. University of Nebraska Medical Center 2002; M.S. Nebraska Wesleyan University 2008; Ph.D. University of Missouri-Kansas City 2020; Clinical Assistant Professor 2020.

Senior Lecturers:

Associate Lecturers:

Carrie Barr, Paula Kihn, Candace Stidolph, Christina Warren

Assistant Lecturers:

Megan Beach, Shirley Boggs, Ashley Lair, Jennifer Langevin, Cheryl Rodgers, Shannon Schneider, Amy Turpin, Sarah Whitman

Adjunct and Part-time Faculty:

Amy Aldrich, Nicole Alexander, Nikki Armstrong, Jennifer Barbee-Crim, Timothy Barnes, Paula Belknap, Jennifer Browne, Colleen Butler, Britni Camino, Carol Campbell, Erin Clikeman, Robin Cole, Mary Cox, Robyn Curtis-Rice, Wesley Davis, Alison Doherty, Michelle Dowling, Sharon Farra, Jennifer Favilla, James Fleenor, Shelby Frost, Deborah Gaspar, Brian Gee, Mary Kay Goetter, Julian Good, Grace Gosar, Pete Gosar, Sheriedan Grannan, Nancy Halsey, Lori Hart, Jennifer Helmer, Jesse Henry, Holly Hink, Michelle Hipsak, Jennifer Hluwood, Barbara James, Dawn Jensen, Amy Johnson, Jayne Josephsen, Sunny Kaste, Melanie Kawulok, Katie Keller, Carol Kobulnicky, Cheryl Koski, Cory Lamblin, Kara Laughlin, Anthony Leonard, Sue Lowe, Cristina Mcafee, Lauren Menter, Katherine Miller, Jesse Morse-Brady, May Nara, Marcia Newell, Kristy Nielson, Brian O'Neill, Jennifer Oiler, Alicia Palazzolo, Sarah Penn, Whitney Peterson, Collin Prince, Chelse Raymer, Rasha Riad, Vickie Richards, Amy Robohm, Marlene Shaw, Elizabeth DePrince Smith, Shawn Snyder, Sherra St.Clair, Nichole Taylor, Veronica Taylor, Cassie Terfehr, Joslyn Thompson, Kate Thompson, Teresa Thompson, Weldonna Toth, Jennifer Tryder, Candace Tull, Jessica Warren, Cynthia Weber, Leah White, Linda Williams, Wendy Wood Neeson, Wendy Wright

Emeriti:

Pamela D. Larsen, Mary E. Burman, Beverly McDermott, Holly Miller, Mary Anne Purtzer, Kimberly Raksa-Miller, Susan H. Steiner, Beverly Taheri-Kennedy, Fay W. Whitney, Norma Wilkerson

The Fay W. Whitney School of Nursing (FWWSON) has well established B.S.N, M.S., and D.N.P. programs based upon national nursing education standards.

Mission

The FWWSON educates, conducts research and provides service and practice to improve, protect and promote health.

Accreditation and Membership

The baccalaureate and graduate programs are accredited by the Commission on Collegiate Nursing Education (CCNE).

The baccalaureate program (Basic BSN, BRAND) is approved by the Wyoming State Board of Nursing (WSBN). Graduates of the Basic BSN and BRAND options are qualified to apply to take national licensing examination: NCLEX. Graduates of the DNP Program are eligible to take the national certification exams as a nurse practitioner.

Technical Standards Education and Practice

All nursing students must be able to perform the essential functions of a nurse, including observation/communication, physical/motor, intellectual, and behavioral/social. Please refer to the "Technical Standards for Education and Practice and Reasonable Accomodations Policy", including information on reasonable accommodations, on the school's website: http://www.uwyo.edu/nursing/programs/technical-standards-for-admission.html.

Background Check Requirement

Students enrolled in clinical training programs within the College of Health Sciences are placed in educational and clinical settings where highly vulnerable clients such as minor children, individuals with disabilities, and/or the elderly, are routinely served. These clinical/ practice training sites (including schools, hospitals, pharmacies, and other university sites) routinely require criminal background checks for all students who engage in clinical activities.

Therefore, background checks shall be required on all applicants to programs in the College of Health Sciences prior to admission into their prospective program.

Students applying for admission to any nursing program option will be notified by the FWWSON at the time of any admission offer the process for completing the required background check. Previous background checks (e.g. CNA Certification, LPN or RN Licensure) are not acceptable to fulfill this expectation. The results of the background check may determine final admittance to the program.

Students may also be required to update the criminal background check. Each clinical training site will be informed that students have passed a background check prior to placement at that site; some sites may require a more current background check. Clinical agencies may bar a student access to their facility for clinical experiences based on the results of the background check. If faculty and staff are not able to place the student in an alternative setting, the student will not be able to complete the program. In addition, students seeking readmission into the program are required to complete a new background check. Students are responsible for the costs associated with the admission background check and any other background checks that may be required.

Drug Screening Requirement

An acceptable drug screen is required at admission for all students entering clinical programs in the School of Nursing as drug screening is required by most clinical training sites. Students will be notified by the FWWSON should this be an expectation of them for a specific placement after admission. Students may incur charges for this screening and will be notified of such at that time. Drug and/or alcohol testing for any student can be requested by the FWWSON.

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Health Insurance Requirement

Health insurance coverage is a requirement of the Fay W. Whitney School of Nursing for participation in any clinical rotation. It is the responsibility of the student to obtain and maintain coverage for **ALL** clinical rotations. Students will be notified by the FWWSON for the timing for completion of the FWWSON Student Verification of Health Insurance Form.

Undergraduate Study

Bachelor of Science in Nursing (BSN) Program

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgement, Patient Centeredness)
- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domains 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)
- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgement, Safety)
- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient Centeredness & Health Promotion)
- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)
- Implement effective partnerships, policy, and advocacy across divers populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)
- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, & Health Promotion)

*Domains: AACN Essentials Domains

** CCC: ReNeW Core Curricular Concepts

Bachelor of Science in Nursing (BSN) Program Options

The Fay W. Whitney School of Nursing offers a baccalaureate program with three options to obtain the BSN degree:

- Basic BSN - a four-year, on-campus BSN option for the student who wishes to become a registered nurse at the baccalaureate level.
- BRAND (Bachelors Reach for Accelerated Nursing Degree) - an accelerated BSN outreach option for the student who has already achieved a previous non-nursing baccalaureate degree and who wishes to become a registered nurse at the baccalaureate level.
- BSN Completion - two online BSN options (ReNEW and RN-BSN):
    - ReNEW (Revolutionizing Nursing Education in Wyoming) - an online BSN option for the student or graduate of a Wyoming community college ReNEW nursing program who wishes to become a baccalaureate-prepared nurse.
    - RN-BSN - an online BSN option for the graduate of a non-ReNEW associate degree or diploma nursing program who wishes to become a baccalaureate-prepared nurse.

    Please refer to the appropriate BSN program option section that follows below.

Graduate Study

The Fay W. Whitney School of Nursing offers two graduate programs leading to: 1) a Master of Science (M.S.) degree and 2) a Doctor of Nursing Practice (D.N.P.) degree.

Master of Science (MS) Program

The MS program of study is for nurses who desire to become nurse educators or nurse leaders in any academic or health-related setting. The program mission is to prepare transformational learners and leaders to advance nursing education and practice, thus, addressing the complexities in the 21st century healthcare system. Core

curricular concepts woven through the curriculum include transformation, communication, interconnected global perspective, outcomes orientation, and rural population health.

Expected Student Learning Outcomes

MS graduates are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings.
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate concepts from nursing and other sciences to address population health.
- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation:
  Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Master of Science (MS) Program Concentrations

The Fay W. Whitney School of Nursing offers a masters program with two concentrations to obtain the MS degree:

- Nurse Educator - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse educators.
- Nurse Leader - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse leaders.

Please refer to the MS program section that follows below.

Doctor of Nursing Practice (DNP) Program

The Doctor of Nursing Practice (DNP) degree is the new standard for advanced practice nursing education. The DNP program is open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by an approved nursing education accrediting body.

Expected Student Learning Outcomes

DNP graduates will:

- engage in evidence-based practice to optimize health outcomes;
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation:
  Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Doctor of Nursing Practice (DNP) Program Concentrations

The Fay W. Whitney School of Nursing offers a doctoral program with two concentrations to obtain the DNP degree:

- Family Nurse Practitioner (FMY) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural primary care.
- Psychiatric Mental Health Nurse Practitioner (PSH) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural psychiatric mental health care.

Please refer to the appropriate DNP program concentration section that follows below.

Major

Nursing, B.S.N., Basic BSN Option

"Basic BSN" is an on-campus BSN option for students who want to become a registered nurse and earn the Bachelor of Science in Nursing degree. Learning facilities include state-of-the-art classrooms and Clinical Simulation Center.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Pre-Clinical Component

- ENGL 1010 - College Composition and Rhetoric Credits: 3
- MATH 1400 - College Algebra Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR
- CHEM 1020 - General Chemistry I Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3

- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MICR 2240 - Medical Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1

- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

- ZOO 3115 - Human Systems Physiology Credits: 4

Clinical Component

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 2340 - Developmental Influences on Health Credits: 3
- NURS 3445 - Fundamentals and Health Assessment in Professional Nursing Practice Credits: 4
- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4
- NURS 3490 - Health Promotion in Professional Nursing Practice Credits: 3
- NURS 3690 - Professional Nursing Acute/Chronic Illness Credits: 3
- NURS 3695 - Professional Nursing Acute/Chronic Illness Practicum Credits: 4
- NURS 4125 - Evidence-Based Nursing Credits: 3
- NURS 3890 - Professional Nursing Care in Complex Illness Credits: 3
- NURS 3891 - Professional Nursing Care of Older Adults Credits: 3
- NURS 3892 - Professional Nursing Care in Mental Health and Illness Credits: 3
- NURS 3895 - Professional Nursing Care in Complex Illness Practicum Credits: 4
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3
- NURS 4690 - Professional Nursing Care of Populations Credits: 4
- NURS 4691 - Professional Nursing Care of Children and Families Credits: 4
- NURS 4695 - Professional Nursing Care of Populations Practicum Credits: 4
- NURS 4865 - Professional Nursing Leadership Credits: 3
- NURS 4895 - Professional Nursing Capstone Practicum Credits: 9-12

  With approval from FWWSON, ROTC students taking ARMY 3050 may apply 3 credits to this requirement and take NURS 4895 for 9 credits.

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Basic BSN has two different admission entries: 1) Freshman Admission to the Nursing major and 2) Non-Freshman Admission to the Nursing major. Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Freshman Admission or Non-Freshman Admission under Admission to Basic BSN)*.

**Applicants meeting minimum requirements are not guaranteed admission.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for Basic BSN. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Basic BSN Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

The minimum requirement to graduate with a BSN is 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450] and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Nursing courses are offered fall and spring semesters of the university academic calendar. Students are required to have transportation to all clinical sites. A number of clinical sites are located in Cheyenne. The capstone practicum experience during spring of the senior year requires students to live in locations away from campus.

Program of Study

A detailed, semester sequenced Basic BSN Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Basic BSN Program of Study)*. All required courses identified under Pre-Clinical Component and Clinical Component must be passed with a C or better (or S) except for CHEM 1000, which requires a B or better. .

Applicable for: Freshman/Non-Freshman Admission to the Nursing Major

Nursing, B.S.N., BRAND Option

"Bachelors Reach for Accelerated Nursing Degree": an accelerated Bachelor of Science (BSN) option for students with a previous non-nursing baccalaureate degree who desire to become a registered nurse. This option is a 'summer to summer' format with a full-time schedule of courses.

Degree Requirements

This degree requires 55-58 credits.

Prerequisite Courses

- PSYC 1000 - General Psychology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

- CHEM 1000 - Introductory Chemistry Credits: 4

  *Must earn a grade of B or better if taking CHEM 1000.

  OR
- CHEM 1020 - General Chemistry I Credits: 4

- LIFE 1010 - General Biology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4

- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MICR 2240 - Medical Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4

- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

Required Graduate Course

US & WY Constitutions (V) course.

- POLS 1000 - American and Wyoming Government Credits: 3

Nursing Courses

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- NURS 3745 - Nursing Fundamentals and Health Assessment Credits: 4
- NURS 3790 - Health Promotion of Individuals, Families, and Populations Credits: 3
- NURS 3770 - Nursing Care in Acute and Chronic Illness Credits: 6
- NURS 3771 - Nursing Care in Acute, Chronic, and Complex Illness Practicum Credits: 5
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3
- NURS 4690 - Professional Nursing Care of Populations Credits: 4
- NURS 4691 - Professional Nursing Care of Children and Families Credits: 4
- NURS 4735 - Vulnerable Populations and Mental Health Credits: 3
- NURS 4771 - Nursing Care of Families, Vulnerable Populations, and Behavioral Health Practicum Credits: 4
- NURS 4775 - Nursing Senior Capstone Credits: 10
- NURS 4865 - Professional Nursing Leadership Credits: 3

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who meet university requirements are admitted to the university in the pre-nursing component of BRAND *(declared PNBR major)*. The number of students admitted to BRAND is limited, and admission is a competitive process.

**Applicants meeting minimum requirements are not guaranteed admission.

Criteria for admission to BRAND as well as application instructions and deadlines can be found on the nursing website, www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, Admission Criteria/Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BRAND. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, BRAND Student Handbook - section 6, Scholastic Requirements)*.

Curriculum

The minimum requirement for the second bachelor's (SB) degree candidate to graduate with a BSN is 50 semester hours of credit. This curriculum option totals 55 credit hours.

The minimum requirement for an SB degree is 30 additional semester hours earned from UW, 12 of which must be in upper division level courses. If prior baccalaureate degree was earned through UW, the 30 credit minimum is in addition to the credits earned for previous degree. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450] and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability. PHCY 3450 and PHCY 4470 must be completed within three years **before** the May start date.

Program of Study

A detailed, semester sequenced BRAND Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, BRAND Program of Study)*. All required courses identified under Prerequisite Courses and Nursing Courses must be passed with a C or better (or S).

Nursing, B.S.N., BSN Completion - ReNEW Option

The BSN Completion - ReNEW (Revolutionizing Nursing Education in Wyoming) option is Wyoming's shared BSN nursing curriculum. Entry into the ReNEW option begins at a participating Wyoming community college ADN nursing program.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Related Coursework

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR

  *Must earn a grade of B or better if taking CHEM 1000.
- CHEM 1020 - General Chemistry I Credits: 4
- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MICR 2240 - Medical Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

- Humanities Elective course Credits: 3 *(not PSYC 1000)*

Nursing Courses

Entry Point: First three courses in the program of study.

- NURS 3006 - BSN Completion Foundations Credits: 2
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3 (COM3)
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3

Enrollment open after NURS 3006, 4055, 4665 completion.

- NURS 4630 - Public/Community Health Credits: 2
- NURS 4635 - Community as Client Credits: 2
- NURS 4640 - Health Equity Credits: 2
- NURS 4645 - Population Health Credits: 2
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4840 - Healthcare Systems and Policy Credits: 2

Enrollment after completion of ADN.

- NURS 4835 - Leading Nursing Practice Credits: 2
- NURS 4845 - Innovation in Nursing Practice Credits: 2
- NURS 4855 - Contemporary Nursing Practice Credits: 2

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who apply to UW and meet university requirements are admitted to the university in the pre-nursing component of ReNEW BSN *(declared PNRN)*. Criteria for UW admission can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BSN Completion. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW or RN-BSN, BSN Completion Student Handbook - section 6, Scholastic Requirements).*

Curriculum

The minimum UW requirement to graduate with a BSN in 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450], and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Program of Study

A detailed Program of Study for ReNEW ADN Entry can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW, Program of Study for ReNEW ADN Entry)*. All required courses identified under Related Coursework and Nursing Courses must be passed with a C or better (or S).

Nursing, B.S.N., BSN Completion - RN-BSN Option

The BSN Completion - RN-BSN option is for non-ReNEW associate degree or diploma-educated registered nurses. This option is delivered nationwide with no on-campus time required.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Related Coursework

- MATH 1400 - College Algebra Credits: 3

  OR
- MATH 1405 - Trigonometry Credits: 3

  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5

- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR

  *Must earn a grade of B or better if taking CHEM 1000.
- CHEM 1020 - General Chemistry I Credits: 4
- An approved Human Anatomy course Credits: 4
- An approved Human Physiology course Credits: 4
- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MICR 2240 - Medical Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

Nursing Courses

Entry Point: First three courses in the program of study.

- NURS 3006 - BSN Completion Foundations Credits: 2
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3 (COM3)
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3

  Enrollment open after NURS 3006, 4055, & 4665 completion.
- NURS 4630 - Public/Community Health Credits: 2
- NURS 4635 - Community as Client Credits: 2

- NURS 4640 - Health Equity Credits: 2
- NURS 4645 - Population Health Credits: 2
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4835 - Leading Nursing Practice Credits: 2
- NURS 4840 - Healthcare Systems and Policy Credits: 2
- NURS 4845 - Innovation in Nursing Practice Credits: 2
  Exit Point: Must be taken in last semester.
- NURS 4855 - Contemporary Nursing Practice Credits: 2

Escrow Courses

(Credits are automatically posted to the student's UW transcript during the semester of NURS 4855 enrollment. These credits represent credit for nursing content learned in the associate degree or diploma in nursing program.)

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- NURS 3890 - Professional Nursing Care in Complex Illness Credits: 3
- NURS 3895 - Professional Nursing Care in Complex Illness Practicum Credits: 4

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who apply to UW and meet university requirements are admitted to the university in the pre-nursing component of RN-BSN *(declared PNBS)*. Criteria for admission as well as application instructions can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, RN-BSN, Admission Criteria/ Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BSN Completion. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW or RN-BSN, BSN Completion Student Handbook - section 6, Scholastic Requirements).*

Curriculum

The minimum UW requirement to graduate with a BSN in 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450], and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Program of Study

A detailed Program of Study for RN-BSN Entry can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, RN-BSN, Program of Study for RN-BSN Entry)*. All required courses identified under Related Coursework and Nursing Courses must be passed with a C or better (or S).

Graduate

Nursing, D.N.P., Family Nurse Practitioner Concentration

The Family Nurse Practitioner (FMY) concentration prepares advanced practice nurses to provide primary health care to diverse individuals and their families in a variety of outpatient settings, especially rural settings. This degree requires 75 graduate credits.

DNP Core Courses

- NURS 5140 - Pharmacotherapy for Primary Care Credits: 4
- NURS 5165 - DNP: Adv Pathophysiology Credits: 3
- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness Credits: 3
- NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners Credits: 3
- NURS 5830 - Health Behavior Change II: Behavioral Skills for Secondary and Tertiary Prevention Credits: 3
- NURS 5865 - DNP Seminar Credits: 1
- NURS 5866 - DNP Seminar II Credits: 1
- NURS 5891 - Doctor of Nursing Project I Credits: 1
- NURS 5892 - Doctor of Nursing Project II Credits: 3
- NURS 5893 - Doctor of Nursing Project III Credits: 1
- NURS 5894 - Doctor of Nursing Project IV Credits: 2

Family Nurse Practitioner Specialty Courses

- NURS 5825 - Advanced Health Assessment and Clinical Decision-Making for Family Nurse Practitioners Credits: 4
- NURS 5827 - Skills for Family NP Credits: 3
- NURS 5871 - Wellness for Adults in Primary Care Credits: 3
- NURS 5872 - Practicum for Wellness in Primary Care Credits: 3
- NURS 5873 - Primary Care for Children, Adolescents, and Families Credits: 3
- NURS 5874 - Practicum for Primary Care for Children, Adolescents, and Families Credits: 3
- NURS 5875 - Primary Care for Acute & Chronically Ill Adults Credits: 3
- NURS 5876 - Practicum for Primary Care for Acute & Chronically Ill Adults Credits: 3
- NURS 5877 - Primary Care for Acute & Chronically Ill Adults II Credits: 3

Additional Requirements

Expected Student Learning Outcomes

Graduates will:

- engage in evidence-based practice to optimize health outcomes; and
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the DNP Program by the application deadline to be considered for fall admission *(the entire DNP application process is completed online).* The applicant is responsible to make certain that UW is in receipt of all application materials/ fees. The number of students admitted is limited. Admission is a competitive process and applicants meeting minimum requirements are not guaranteed admission to the program. Admission to the university does not guarantee admission to the DNP program in the School of Nursing.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, Admission Criteria & Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the DNP Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All DNP students, regardless of concentration will take a set of core courses. In addition to the core courses a group of specialty courses are required for each NP concentration. Students earning the DNP degree will complete a final scholarly project which is integrated into the FMY and PSH curricula.

The DNP core and clinical courses will be delivered using a combination of online courses; synchronous video web-conferencing, and hybrid courses with periodic intensive on-campus experiences. Clinical placements will be arranged at health care facilities in Wyoming, north central Colorado, or southern Montana.

Program of Study

A detailed, semester sequenced DNP-FMY Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP-FMY Program of Study)*.

Nursing, D.N.P., Psychiatric Mental Health Nurse Practitioner Concentration

The Psychiatric Mental Health Nurse Practitioner (PSH) concentration prepares advanced practice nurses to provide a full range of psychiatric care. Graduates are prepared to assess, diagnose, and manage, to include prescribing psychotropic medications, for people with chronic and acute psychiatric disorders. This degree requires 73 graduate credits.

DNP Core Courses

- NURS 5140 - Pharmacotherapy for Primary Care Credits: 4
- NURS 5165 - DNP: Adv Pathophysiology Credits: 3
- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness Credits: 3
- NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners Credits: 3
- NURS 5830 - Health Behavior Change II: Behavioral Skills for Secondary and Tertiary Prevention Credits: 3
- NURS 5865 - DNP Seminar Credits: 1
- NURS 5866 - DNP Seminar II Credits: 1
- NURS 5891 - Doctor of Nursing Project I Credits: 1
- NURS 5892 - Doctor of Nursing Project II Credits: 3
- NURS 5893 - Doctor of Nursing Project III Credits: 1
- NURS 5894 - Doctor of Nursing Project IV Credits: 2

Psychiatric Mental Health Nurse Practitioner Specialty Courses

- NURS 5826 - Advanced Health Assessment for Psych NPs Credits: 2
- NURS 5828 - Skills for Psychiatric Mental Health Nurse Practitioners Credits: 2
- NURS 5862 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP I Credits: 5
- NURS 5863 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP II Credits: 5
- NURS 5864 - Final PSH Practicum Credits: 6
- NURS 5880 - Neurobiology & Psychopharm Credits: 4
- NURS 5881 - Psychotherapy Models and Theories for Advanced Practice Mental Health Nursing Credits: 3
- NURS 5882 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Adult, Older Adult, and Vulnerable Populations Credits: 4
- NURS 5883 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Child and Adolescent Credits: 4

Additional Requirements

Expected Student Learning Outcomes

Graduates will:

- engage in evidence-based practice to optimize health outcomes;
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the DNP Program by the application deadline to be considered for fall admission *(the entire DNP application process is completed online).* The applicant is responsible to make certain that UW is in receipt of all application materials/ fees. The number of students admitted is limited. Admission is a competitive process and applicants meeting minimum requirements are not guaranteed admission to the program. Admission to the university does not guarantee admission to the DNP program in the School of Nursing.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, Admission Criteria & Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the DNP Program. These

requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All DNP students, regardless of concentration will take a set of core courses. In addition to the core courses a group of specialty courses are required for each NP concentration. Students earning the DNP degree will complete a final scholarly project which is integrated into the FMY and PSH curricula.

The DNP core and clinical courses will be delivered using a combination of online courses; synchronous video web-conferencing, and hybrid courses with periodic intensive on-campus experiences. Clinical placements will be arranged at health care facilities in Wyoming, north central Colorado, or southern Montana.

Program of Study

A detailed, semester sequenced DNP-PSH Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP-PSH Program of Study)*.

Nursing, M.S., Nurse Educator/Nurse Leader Concentrations

The MS program is a part-time, online degree open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by CCNE or NLNAC. The MS program has two concentrations: 1) Nurse Educator (NE) and 2) Nurse Leader (NL). This degree requires 30 graduate credits.

MS Core Courses

- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5472 - Integrated Advanced Pathophysiology, Pharmacology, and Assessment Credits: 3
- NURS 5473 - Advancing Healthcare Transform Credits: 3
- NURS 5483 - Practicum: Rural Healthcare Leadership Credits: 3
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1

Nurse Educator Specialty Courses

- NURS 5452 - Curriculum Development Credits: 3
- NURS 5462 - Teaching Methodologies and Evaluation Credits: 3

Nurse Leader Specialty Courses

- NURS 5420 - Leadership Within Health Care Systems Credits: 3
- NURS 5461 - Business of Healthcare Credits: 3

Additional Requirements

Expected Student Learning Outcomes

M.S. Graduate are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate concepts from nursing and other sciences to address population health.
- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the MS Program by the application deadline to be considered for fall admission (*the entire MS application process is completed online*). The applicant is responsible to make certain that UW is in receipt of all application materials/fees.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing (*click on Nursing Programs, MS, Admission Criteria/Application*).

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the MS Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, MS, MS Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All MS students, regardless of concentration will take a set of core courses. In addition to the core courses, a group of specialty courses are required for each MS concentration.

Program of Study

A detailed, semester sequenced MS Program of Study can be found on the nursing website: www.uwyo.edu/nursing (*click on Nursing Programs, MS, MS Program of Study*).

School of Pharmacy

292 Health Sciences, (307) 766-6120
FAX: (307) 766-2953
Web site: www.uwyo.edu/Pharmacy
Dean: Kem Krueger
Associate Dean of Students: Tonja Woods

Associate dean for Academic Affairs: Michelle Hilaire

Professor:

SREEJAYAN NAIR, B.S. College of Pharmaceutical Sciences, Manipol, India 1989; M.S. 1991; Ph.D. 1996; Professor of Pharmacology 2014, 2002.

Associate Professors:

MICHELLE BLAKELY, B.A. University of South Alabama 2005; M.Ed. Auburn University 2008; Ph.D. 2011; Associate Professor of Social and Administrative Pharmacy 2023, 2018.

JARED S. BUSHMAN, B.A. University of Utah 2003; M.S. University of Rochester 2006; Ph.D. 2008; Associate Professor of Pharmaceutical Science 2020, 2014.

GUANGLONG HE, B.S. Anhui Normal University 1986; M.S. Chinese Academy of Sciences 1994; Ph.D. 1997; Associate Professor of Medicinal Chemistry 2019, 2013.

KEM P. KRUEGER, Pharm.D. University of Missouri-Kansas City; Ph.D. University of Arizona 1998; Associate Professor of Social and Administrative Pharmacy 2011, 2005.

TRACY D. MAHVAN, B.S. University of Colorado 1995; Pharm.D. 1998; Associate Professor of Pharmacy Practice 2006, 2000.

RESHMI L. SINGH, B.S. Bombay University 1999; M.S. University of Toledo 2001; Ph.D. University of Minnesota 2005; Associate Professor of Social and Administrative Pharmacy 2019, 2013.

Assistant Professors:

SHEBA DAVID, B. Pharm. Tamilnadu MGR Medical University 1998; Ph.D. Jadavpur University 2007; Assistant Professor of Pharmaceutical Sciences 2022.

NERVANA ELKHADRAGY, B.S. Cairo University 2004; Pharm.D. Purdue University 2008; M.S. 2018; Ph.D. 2020. Assistant Professor of Social and Administrative Pharmacy 2020.

Clinical Professor:

MICHELLE L. HILAIRE, Pharm.D. Duquesne University 2002; Clinical Professor of Pharmacy Practice 2016, 2010, 2004.

JAMIE R. HORNECKER, B.S. Texas Tech University 1999; Pharm.D. University of Wyoming 2003; Clinical Professor of Pharmacy Practice 2012, 2005.

TONJA M. WOODS, Pharm.D. University of Wyoming 2002; Clinical Professor of Pharmacy Practice 2023, 2009, 2003.

Clinical Associate Professors:

JED DOXTATER, B.S. University of Montana 2006; M.S. University of North Dakota 2013; Clinical Associate Professor 2021, 2015.

BECKY S. LINN, B.A. University of Wyoming 1997; Pharm.D. 2002; Clinical Associate Professor 2020.

JANELLE L. KRUEGER, B.S. University of Wyoming 1992; M.S. University of Kansas 1997; Clinical Associate Professor of Pharmacy Practice 2013, 2005.

ALLISON M. MANN, B.S. University of Colorado Boulder 2004; Pharm.D. University of Colorado Denver 2009; Clinical Associate Professor of Pharmacy Practice 2020.

LEENA D. MYRAN, B.S. University of Wyoming 2000; Pharm.D. 2012; Clinical Associate Professor of Pharmacy Practice 2020.

JEREMY VANDIVER, B.A. University of Colorado 2006; Pharm.D. University of Colorado 2010; Clinical Associate Professor 2020.

Clinical Assistant Professors:

JESSICA PAPKE, PharmD, University of Wyoming 2017; Clinical Assistant Professor 2020.

LAVINIA SALAMA, Pharm.D, Albany College of Pharmacy and Health Sciences 2020; Clinical Assistant Professor Pharmacy Practice 2022.

Associate Lecturers:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assocaite Lecturer of Medical Laboratory Science 2021, 2016.

Senior Lecturer:

ANTOINETTE K. BROWN, B.S. University of Wyoming 1992; Senior Lecturer 2024.

DAVID C. BRUCH, B.S. University of Wyoming 1998; Pharm.D. 2010; Senior Lecturer 2023.

Drug Information Director:

MELISSA L. HUNTER, B.S. University of Wyoming 2000; Pharm.D. 2004; Senior Research Scientist 2013, 2007.

Director of Postgraduate Education:

Elliott Sogol, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

Professors Emeriti:

Emery Brunett, Ph.D.
Bruce W. Culver, Ph.D.

E. Kurt Dolence, Ph.D
Linda Gore Martin, Pharm.D.
Kenneth F. Nelson, Ph.D.
Robert B. Nelson, Ph.D.
Robert D. Scalley, Pharm.D.
Beverly, Sullivan, Pharm.D.
M. Glaucia Teixeira, Ph.D.
Weeranuj Yamreudeewong, Pharm.D.

Deans Emeriti:

John H. Vandel, B.S. Pharmacy
Linda Gore Martin, Pharm.D.

Vision, Mission and Values

Vision

The University of Wyoming School of Pharmacy (UWSOP) is nationally recognized for its distinguished and collaborative teaching, research, pharmacy practice, and its entrepreneurial spirit.

Our graduates are highly skilled health professionals and leaders. Our graduates thrive and innovate in diverse and dynamic environments.

Mission

The University of Wyoming School of Pharmacy (UWSOP) advances the holistic development of our learners, preparing them to embrace change and positively impact the health and well-being of the communities that they serve. We engage in interdisciplinary teaching, research, practice, and service that results in meaningful innovations in healthcare, and improves the health and wellness of Wyoming, national, and global communities.

Statement of Values

The University of Wyoming School of Pharmacy community is committed to supporting and promoting individual and collective excellence in teaching, research, service, and pharmacy practice.

We value learning, collaboration, responsibility, compassion, respect, integrity, diversity, equity, and inclusion in all endeavors.

Graduate Expectations

Our graduates will be recognized and respected for:

- Leading positive change in the communities, organizations, industries, and professions that they serve
- Engaging in collaborative opportunities across disciplines and professions
- Providing evidence-based, empathetic, patient-centered care
- Thinking critically, creatively, ethically, and pragmatically
- Thriving and innovating in dynamic, diverse, and digital environments
- Ability to adapt in an ever-changing environment
- Dedication to excellence and integrity
- Communicating effectively across a wide range of audiences
- Embracing an entrepreneurial spirit

Learning Outcomes

The University of Wyoming adheres to the American Association of Colleges of Pharmacy Curricular Outcomes and Entrustable Professional Activities (COEPA) 2022. This multipage document (and its supplements) can be accessed at https://www.aacp.org/resource/educational-outcomes-and-epas. The school has outlined student/curriculum learning outcomes; these are available on the school website.

Student/Faculty Relations

The faculty and staff at the School of Pharmacy (SOP) treat students as adults and expect appropriate behavior as beginning professionals. The School of Pharmacy recognizes that the profession of pharmacy demands of its members the utmost degree of professional competence, ethical behavior, and integrity. Upon enrolling at the University of Wyoming SOP and at the start of each academic year, all students will sign a pledge acknowledging that they have received and read the current Honor Code and that they have made a personal commitment to uphold the code and abide by its principles. Similarly, the School of Pharmacy Professionalism Policy for faculty and staff is built on the foundation of respect for others, personal responsibility, the creation and maintenance of trust, and honesty and truthfulness. The administration, faculty, staff, students, and alumni of the School of Pharmacy at the University of Wyoming should strive to set an example of ethical leadership and professional behavior as those traits are essential for good social and business interactions.

Accreditation and Membership

In Wyoming, as in most other states, one requirement for registration as a pharmacist is graduation from an accredited entry-level Pharm.D. program. The Accreditation Council for Pharmacy Education (ACPE), the national accrediting agency for pharmacy, accredits pharmacy degree programs.

The Doctor of Pharmacy program at UW was most recently accredited in 2020 following an on-site evaluation by the ACPE in October 2021. Verification of current accreditation status may be made by: a) contacting the Dean's Office, School of Pharmacy; b) connecting to www.uwyo.edu/pharmacy/; c) contacting the Accreditation Council for Pharmacy Education (190 South LaSalle Street, suite 2850 Chicago IL 60603, (312) 664-3575; cinfo@acpe-accredit.org) or d) by checking the latest Annual Directory of Accredited Professional Programs published by ACPE.

The school is a member of the American Association of Colleges of Pharmacy and adheres to its educational standards.

Pre-Pharmacy Program and Requirements

Applicants for the Pharm.D. program must complete prepharmacy requirements before they can be admitted. Usually, two academic years totaling 67 credit hours (which may include summer and J-Term semesters) is required to complete prepharmacy requirements.

All prepharmacy coursework must be completed by the end of the spring semester prior to matriculation in the professional program.

Graduates of fully accredited high schools may be admitted to the prepharmacy program with a math placement score of 3 or an ACT math score of 23.

Early Assurance Program (EAP): Students are accepted to the EAP program based on their high school GPA and ACT/SAT scores. High School students can apply to the Pharm.D. program as they are applying for admission to the University of Wyoming as first-year students.

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- OR

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

Doctor of Pharmacy (Pharm.D.) Program

Admission

Admission to the Pharm.D. degree program is limited to 52 students per year and is highly competitive. Admission is granted by the School of Pharmacy Dean upon the advice of the School of Pharmacy Admissions Committee. Students can apply to the Pharm.D. program as freshman via the Pharmacy Early Assurance program. All students applying to the UW School of Pharmacy must use the PharmCAS application (www.pharmcas.org) process. All materials are submitted to UW using this service. The School of Pharmacy requires no supplemental application. Students granted admission to the Pharm.D. program will have to pay a one-time, non-refundable, seat fee to guarantee their placement into the entering class. In addition students will be required to complete any immunizations necessary for experiential rotations. As part of a College of Health

Sciences requirement students are also expected to complete and pass a background check prior to final admission to the professional program.

Students must meet, with or without accommodation, specified physical requirements. The School of Pharmacy's Technical Standards can be found at http://www.uwyo.edu/pharmacy/_files/documents/admin/uwsop-technical-stds-3-2013.pdf.

The School of Pharmacy provides opportunities to ensure that our students have co-curricular experiences in our didactic program. Providing co-curricular options allows students to choose activities that interest them and will allow them to grow as future health professionals. A portion of co-curricular activities throughout the degree program will be required and assessed.

Students at the University of Wyoming SOP are immersed in interprofessional education opportunities during all years of the Pharm.D. program. Interprofessional education provides experiences for Pharm.D. students to collaborate and share knowledge with learners in other health sciences disciplines, which fosters readiness for working in team-based care environments in their future careers.

Program of Study

Requirements for Graduation

The degree of Doctor of Pharmacy (Pharm.D.) is granted upon satisfactory completion of 146 hours in the Pharm.D. curriculum in accordance to the school's academic standards and the fulfillment of the general university requirements. The School of Pharmacy does not accept transfer students into the professional pharmacy program.

Graduation with Honors

The University of Wyoming School of Pharmacy is authorized to grant honors for academic excellence. A Doctor of Pharmacy with honors designation is awarded by the University of Wyoming to students who graduate with exceptional scholarship in Pharmacy.

Exceptional scholarship in pharmacy is defined as a student who is on track to graduate with their class from the University of Wyoming School of Pharmacy and is in the top 5% of their class based on their pharmacy GPA (as assessed at the end of the fall semester of the P4 year). The Pharmacy GPA is calculated on the basis of required professional pharmacy curriculum coursework and excludes required or selected elective hours. The honors distinction must be approved by a School of Pharmacy faculty vote.

Academic Honesty and Professional Conduct

Students admitted to the Pharm.D. program are required to participate and sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Pharm.D. program.

Academic Standards for Progression and Graduation

The course of study in the School of Pharmacy (SOP) is four academic years leading to a Doctor of Pharmacy degree (Pharm.D). The required Pharm.D. coursework is organized in a prescribed, non-negotiable, sequential manner. All students have a P-designation identifying their year in the program (P1, P2, P3, P4). Required pharmacy courses (PHCY courses) from any national or international pharmacy programs will not be applied to the UW Pharm.D degree. The student may petition that coursework to be applied to the program but must replace those credit hours with additional elective courses. Courses taken as S/U, including electives, are usually considered unacceptable in fulfilling program requirements. Auditing courses for the PharmD degree is not allowed.

The academic standards herein described are expected to be followed by all students admitted to the Pharm.D. program. Any violation will constitute grounds for probation or termination from the Pharm.D. program and will delay progression towards advanced coursework. Probation is a period of time in which the student is allowed to continue in the program under supervision. Students that do not meet academic standards and are placed on probation will have to submit a petition that includes an individualized plan of study for the next semester. This plan must be developed by the student in agreement with and signed by the academic advisor. The petition will be reviewed by the Student Affairs Committee (SAC), which will send a recommendation to the Dean for approval or denial. A leave of absence may be necessary in cases where poor academic performance is due to a medical or personal hardship. The student may appeal sanctions related to violations of the academic standards and decisions that result in probation and termination in the program. Appeals start at the School level, followed by College and University levels, according to policy.

Masters of Health Service Administration (MSHSA) Students will follow the Admission Guidelines and Academic Progression information listed on the following website for Graduate Students: Graduate Student Regulations and Policies

Academic Standards

- A grade of D or lower, or course withdrawal, in any required course of the Pharm.D. program constitutes failure to progress toward the Pharm.D. degree and result in probation.
- A grade of D or lower, in any elective course of the pharmacy program constitutes failure to progress toward the Pharm.D degree and result in probation.
- Students must earn a GPA of 2.000 or better in both University coursework and pharmacy program courses each semester and cumulatively.
- Students must be considered full time with coursework applicable to the pharmacy degree during each semester while in good standing.
- Incomplete coursework must be completed prior to progression into the next academic semester and will halt progression in experiential coursework.
- Students who earn a D or lower in any experiential coursework will have their rotation sequence halted.
- A course taken in the professional pharmacy program course can be repeated only once.
- A maximum of three required courses are allowed to be repeated during the degree program.
- Failure to meet any academic standards for two semesters (not necessarily consecutive) in didactic and/or experiential coursework results in automatic termination from the Pharm.D. program.
- Failure of two experiential courses, not necessarily consecutive, results in termination from the Pharm.D. program.

Elective Credits Policy

The purpose of electives at the School of Pharmacy (SOP) is to complement the pharmacy curriculum, expand knowledge within a specific pharmacy discipline and to ensure completion of the general liberal arts education of the University of Wyoming. Therefore, the following policies have been approved by the faculty for the Doctor of Pharmacy program (thereafter, Program).

As published in the University Catalog and SOP students are required to complete a minimum number of electives, specific for the student's year of matriculation into the Program. This number may vary and may be modified as adjustments are made to the professional curriculum to comply with accreditation standards. Students will be made aware of this number during initial orientation into the Program and kept informed of any changes during their stay in the academic program.

Students must take elective courses to satisfy first the requirements of the University Studies Program (thereafter, USP) and then complete the remaining required electives credits as general elective coursework (Program-approved required number of elective hours).

- Students are required to complete all USP requirements even if they exceed the minimum number of elective hours initially defined in their Program in order to graduate from UW.
- Transfer or online courses from other accredited institutions may be honored as elective credits toward the Program. Students are solely responsible to have all transcripts from other schools sent to the University and make sure that the Director of Student Services and advisors are aware of any transfer work in the Pharm.D. program.
- All required hours (including electives) must be completed by students before progressing into the P4 rotation year. Students will not be allowed to progress toward the 4th year rotations if university studies requirements were not fulfilled.
- Students shall not take electives as Satisfactory/ Unsatisfactory (S/U) credit.
- All courses taken in the preprofessional program or to fulfill requirements in a previous degree cannot be retaken to count as elective hours in the Program. In addition, students cannot use previously taken credit (prior to the professional program) as elective credit in the professional program.
- Credit by exam through the Foreign Languages Dept. will not be accepted as fulfillment of elective requirements in the Program. However, it is a student's right to earn credit by exam for Wyoming History and Government, while receiving elective credits toward the Program and fulfilling USP requirements.
- For procedures and handling of all exceptions to these policies, the students should consult the student handbook, the pharmacy student Share Point site, the SOP website, or check with the Director of Pharmacy Student Services or the Associate Dean of Students.

Curriculum

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3

- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1
- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0
- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2
- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1
- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
-

- PHCY 6471 - Internal Medicine II Credits: 4
- OR

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4
-

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4
- Students complete 4 sections of PHCY 6465, 4 credits each.

- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

- Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)
-

- Students need to take one:

- PHCY 6471 - Internal Medicine II Credits: 4
- or

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Graduate Study

Master of Business Administration/Doctor of Pharmacy (M.B.A./Pharm.D.) dual degree.

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree.

Masters in Health Services Administration

292 Health Sciences, (307)766-6120

Website: https://uwyohealthadminms.org/

Director of Postgraduate Education: Elliott Sogol

Faculty

DAVID B. BRUSHWOOD, B.S.Pharm. University of Kansas 1975; J.D. University of Kansas 1981.

ELLIOTT SOGOL, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

The School of Pharmacy offers the Master of Science in Health Services Administration (MSHSA).

This degree is geared toward new and mid-career practitioners including pharmacists, nurses, physicians, social workers, and other health care professionals who want to become department directors, patient safety coordinators and/or directors, regulatory compliance officers, clinical research associates, health outcomes researchers or take on leadership roles as advanced practice practitioners.

The program also benefits health care workers in fields such as management positions, pharmaceutical sales representatives, medical science liaisons, and pharmacy technician educators as well as new clinical faculty at newly established pharmacy colleges.

Available nationwide the master's program is delivered via a mix of online self-study and online project-based coursework.

The program can be completed in two years of part-time study. Students are requested to travel to the UW Laramie campus for two weekend seminars during the two-year program (based on travel restrictions during the pandemic this course was held online). Graduates will be expected to complete 30 credit hours of coursework and pass a comprehensive final exam. Coursework will be completed over five consecutive semesters however students can take up to 6 years to complete the program.

A prospective student should have earned at least a bachelor's degree from a regionally accredited institution.

Academic Honesty and Professional Conduct

Students admitted to the Master of Science in Health Services Administration program are required to sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a

withdrawal of admission offer or termination from the Master of Science in Health Services Administration program.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration
o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership
o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2

- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2
- Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- PHCY 5XXX The Chemistry of Poisonings 2 Credits

PHCY 5XXX The Process of Forensic Science 2 Credits

Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2
- Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5XXX Biomedical Ethics 3 Credits

PHCY 5XXX Clinical Research Regulation 2 Credits

Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Cybersecurity 2 Credits

PHCY 5XXX HIPPA Compliance 2 Credits

PHCY 5XXX Disaster Management 2 Credits

Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Biomedical Ethics 3 Credits

PHCY 5XXX HIPAA Compliance 2 Credits

PHCY 5XXX Clinical Research Regulation 2 Credits

Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2
- Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3

- Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Information Design and Analysis 2 Credits

PHCY 5XXX Healthcare Information Systems 2 Credits

PHCY 5XXX Information Managment 2 Credits

Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Professional Writing in Healthcare 2 Credits

PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits

PHCY 5XXX The Healthcare Message 2 Credits

Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753
FAX: (307) 268-2416
Web site: www.uwyo.edu/pharmacy/mls-program/index.html
Director: Jed M. Doxtater, MS MLS (ASCP)^{CM}

Associate Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Associate Clinical Faculty of Medical Laboratory Science 2021, 2015.

Associate Lecturer

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Associate Lecturer of Medical Laboratory Science, 2021, 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

- Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.
- Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.
- Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.
- Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.
- Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.
- Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.
- Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.
- Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

- Application of safety and governmental regulations and standards as applied to clinical laboratory science;
- Principles and practices of professional conduct and the significance of continuing professional development;
- Communications sufficient to serve the needs of patients, the public and members of the health care team;
- Principles and practices of administration and supervision as applied to clinical laboratory science;
- Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- Principles and practices of clinical study design, implementation and dissemination of results;
- Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and biohazard and safety.

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program them become eligible to sit for national certification examinations for the profession.

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs.

Contract information:

National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119

http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

- Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.
- Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.
- Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.
- Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory Science degree. See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Students may enter the MLS professional program in the fall or spring semester of their junior year. Application for the program must be submitted to the MLS program director before finals week of the first semester the student has declared the MLS major and is enrolled in a MLS course.

Prior to participating in the enrichment experiences, students will be subject to that agency's requirements for a background check, drug testing and/or drug abuse prevention policies. Students are then subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background check should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo). The Casper College MLT background check is a valid substitute if final semester of MLS program falls within 1 year of check.

After completion and submission of the program application, the student must schedule an interview with the program director for an evaluation for acceptance to the MLS program. Interviews must be completed before the student enrolls in the succeeding semester of coursework. It is the students' responsibility to complete and submit applications, and to schedule an interview with the MLS program director by the due dates.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

The MLS program will provide documentation requirements, as each site may have different requirements for participation (e.g. vaccination records, HIPPA training, safety training, background check/drug screen etc.). If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR, and program director to ensure all required documentation is provided.

Liability insurance will be required for students entering their senior year coursework. Liability insurance is provided through the University of Wyoming at a cost of $13.00/year to the student.

Health Requirements: The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee. Other health records may be required to participate in enrichment activities including MMR, Tetanus, drug screen, and background check/drug screen.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

- Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.
- Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.

- Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.
- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

- Move freely and safely about a laboratory.
- Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.
- Travel to numerous clinical laboratory sites for practical experience.
- Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.
- Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.
- Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.
- Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.
- Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

- Read and comprehend technical and professional materials.
- Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.
- Clearly instruct patients prior to specimen collection.
- Effectively, confidentially and sensitively converse with patients regarding laboratory tests.
- Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.
- Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

- Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.
- Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.
- Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.
- Be flexible and creative and adapt to professional and technical change.
- Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
- Adapt to working with unpleasant biologicals.
- Support and promote the activities of fellow students and of health care professionals.
- Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.
- Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4
- **OR** MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)

- SOC 1000 - Sociological Principles Credits: 3 **OR** ANTH 1200 Introduction to Cultural Anthropology
- **OR** PSYC 1000

- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)

- OR

- COMM 2010 - Public Speaking Credits: 3
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)
- OR

- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3
- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2
- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2
- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1
- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4
- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- **Take a minimum of 8 credits from the following courses:**

- LIFE 3050 - Genetics Credits: 4
- OR

- LIFE 3600 - Cell Biology Credits: 4
- OR

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- OR

- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
- OR

- PHCY 4441 - Intro Health Institution Leadership Credits: 3
- OR

Course Approved by Program Director

- STAT 2050 - Fundamentals of Statistics Credits: 4
- **Take a minimum of 3 credits from the following courses:**

- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- OR

- PSYC 4300 - Adolescent Development Credits: 3
- OR

- SOC 3000 - Social Change Credits: 3
- OR

- SOC 3550 - Medical Sociology Credits: 3
- OR

Course approved by Program Director

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2
- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)
- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum- Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

Major

Medical Laboratory Science, B.S.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4
  OR MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)
- SOC 1000 - Sociological Principles Credits: 3 **OR** ANTH 1200 Introduction to Cultural Anthropology
  OR PSYC 1000
- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)
  OR
- COMM 2010 - Public Speaking Credits: 3
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)
  OR
- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3
- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2
- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2

- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1
- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4
- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
  Take a minimum of 8 credits from the following courses:
- LIFE 3050 - Genetics Credits: 4
  OR
- LIFE 3600 - Cell Biology Credits: 4
  OR
- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
  OR
- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
  OR
- PHCY 4441 - Intro Health Institution Leadership Credits: 3
  OR
  Course Approved by Program Director
- STAT 2050 - Fundamentals of Statistics Credits: 4
  Take a minimum of 3 credits from the following courses:
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
  OR
- PSYC 4300 - Adolescent Development Credits: 3
  OR
- SOC 3000 - Social Change Credits: 3
  OR
- SOC 3550 - Medical Sociology Credits: 3
  OR
  Course approved by Program Director
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2
- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)
- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum- Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

Graduate

Doctor of Pharmacy, MBA/PharmD Dual Degree

This dual degree program provides students with a complementary business degree to start their own business or to advance into management positions in their careers. Students acquire decision-making skills that allow them to excel in their field of practice.

Additional Requirements

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree. Please review the program specific information for each program:

- Business Administration, M.B.A.
- Pharmacy, Pharm.D.
- MBAM 5101 - MBA Foundations Credits: 1
- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 - Executive Leadership II Credits: 1
- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3

  MBA-MBA students, including dual degree students, must take an additional nine (9) credit hours of 4000 or 5000 level College of Business courses. Three (3) of these credit hours can be taken outside the College of Business. Dual degree students (JD/Pharm.D./MS) may take three (3) credit hours outside the College of Business following dual degree agreement guidelines. Please contact your advisor for additional information.

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

Overview

The School of Pharmacy and the Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources offer a dual degree program in which a student who meets the admission qualifications of both programs may simultaneously pursue a combined program of study leading to both the Bachelor of Science degree in Physiology (Physiology BS [PHSO]) and the Doctor of Pharmacy (PharmD) degree. The School of Pharmacy accepts up to ten (10) credit hours of courses in the Physiology BS program toward the credits of the PharmD degree. The College Agriculture, Life Sciences, and Natural Resources Department of Zoology/Physiology accepts up to eighteen (18) credit hours of required courses in the PharmD program toward the credits of the Physiology BS degree. The specific required courses accepted by each will be chosen from the applicable University Catalog. In total, up to twenty (28) credits can be shared across the degrees.

Students will typically spend years one to three in the Department of Zoology and Physiology and years four through seven (4-7) in the School of Pharmacy. Students desiring to complete the dual program in a different

sequence should consult with, and seek approval from each program, keeping in mind the program requirements.

Admission to the Dual Program

Student who wish to declare the dual Physiology BS-PharmD program start their freshman year as Physiology or Pre-pharmacy majors and declare as sophomores provided they are on-track to meet the PharmD admissions standards.

Early Assurance: Students in the Dual Degree Program with sophomore standing and a college GPA of 3.3 will be provisionally accepted into the PharmD program, pending a successful interview.

Basic Provisions of the Dual Degree Offering

1. The School of Pharmacy will accept up to ten (10) credit hours of coursework from the Physiology BS program, provided the student earns a grade of "C" or better. The exact courses designated for credit toward the PharmD will be jointly determined from the applicable catalog by an approving authority in both programs.

2. The Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources will accept up to eighteen (18) credit hours coursework from the PharmD, provided the student earns a grade of "C" or better. The exact PharmD courses designated for credit toward the Physiology BS degree will be jointly determined from the applicable catalog by an approving authority in both programs.

3. Separate grade point averages will be calculated for each program.

4. Students in the dual program must meet all other requirements for the PharmD and Physiology BS programs such as co-curricular programming, experiential learning, and other requirements.

5. The PharmD degree and the Physiology BS degree will be awarded when all the degree program requirements for each respective program have been met.

6. Both the School of Pharmacy and the Physiology BS program will include information on their websites about the dual degree and will strive to promote the program as part of their recruitment efforts.

7. The Physiology BS degree will be the primary degree for years 1-3, then the PharmD degree will be the primary degree once the students matriculate into pharmacy school.

Dual Physiology BS/PharmD Degree

I. ADMISSION
a. Interested students should declare the Dual Physiology BS/PharmD Degree track during years 1-3 of the Physiology

II. GRADUATION
a. Students in the dual degree program will complete all graduation requirements for both degree programs.

III. DEGREE CONFERRAL
a. Two separate degrees will be posted and may include a note at the top of either transcript indicating the number of Physiology hours or PharmD hours accepted as electives toward either degree.
b. This will be the only indication on the student's transcript that they were pursuing a dual Physiology BS/PharmD degree. This note may be necessary to account for the shared credits across degrees and comply with the minimum credits required by the University.

Changes to Curriculum

This agreement will apply to the degree requirements for the full-time, on-campus Physiology BS degree and Doctor of Pharmacy degree outlined in the applicable University of Wyoming Catalog. Issues related to individual students or changes in either degree program requirements will be jointly resolved by the School of Pharmacy and the Department of Zoology and Physiology.

Curriculum Information

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program Curriculum for the Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

Health Services Administration, M.S.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration
o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership

o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2

Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2

Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2

Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

- PHCY 5240 - Pharmaceutical Homicide Credits: 2
  PHCY 5XXX The Chemistry of Poisonings 2 Credits
  PHCY 5XXX The Process of Forensic Science 2 Credits
  Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2
  Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
  Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
  PHCY 5XXX Biomedical Ethics 3 Credits
  PHCY 5XXX Clinical Research Regulation 2 Credits
  Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
  Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
  PHCY 5XXX Cybersecurity 2 Credits

PHCY 5XXX HIPPA Compliance 2 Credits
PHCY 5XXX Disaster Management 2 Credits
Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

PHCY 5XXX Biomedical Ethics 3 Credits
PHCY 5XXX HIPAA Compliance 2 Credits
PHCY 5XXX Clinical Research Regulation 2 Credits
Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1

Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2

Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3

Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

PHCY 5XXX Information Design and Analysis 2 Credits

PHCY 5XXX Healthcare Information Systems 2 Credits
PHCY 5XXX Information Managment 2 Credits
Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

PHCY 5XXX Professional Writing in Healthcare 2 Credits
PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits
PHCY 5XXX The Healthcare Message 2 Credits
Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Pharmacy, Pharm.D.

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3
- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1

- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0
- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2
- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1
- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4

- PHCY 6471 - Internal Medicine II Credits: 4

  OR
- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4

  Students complete 4 sections of PHCY 6465, 4 credits each.
- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

  Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

  Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)

  Students need to take one:
- PHCY 6471 - Internal Medicine II Credits: 4

  or
- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Preprofessional Program

Pre-Pharmacy Program (PPCY)

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

Division of Social Work

Health Sciences Building, (307) 766-6112
FAX: (307) 766-6839
Web site: www.uwyo.edu/socialwork
Division of Social Work Director: Valerie Thompson-Ebanks, Ph.D., MSW

Associate Professors:

NEELY MAHAPATRA, B.Sc. Utka l University, India 1991; M.Sc. 1993; M.S.S.W. University of Texas-Austin 2003; Ph.D. 2008; Associate Professor of Social Work 2016.

VALERIE THOMPSON-EBANKS, B.Sc. University of the West Indies 2002; M.S.W. 2007; Ph.D. Colorado State University 2012; Associate Professor of Social Work 2018.

Assistant Professors:

MARGARET HOLLAND, B.S.W. Mississippi College 2012; M.S.W. University of South Carolina 2013; Ph.D. Florida State University 2021; Assistant Professor of Social Work 2022.

SANDY LEOTTI, B.A. Prescott College 2002; M.S.W. University of Montana 2006; Ph.D. Portland State University 2019; Assistant Professor of Social Work 2019.

SUKYUNG YOON, B.A. Chung-Ang University 2002; M.S.W. Yonsei University 2008; Ph.D. University of Tennessee 2019; Assistant Professor of Social Work 2019.

Assistant Lecturers:

BILLIE CHAPMAN, B.A. University of Wyoming 2005; M.S.W. 2008; Assistant Lecturer of Social Work 2018.

BETHANY CUTTS, B.S.W. University of Wyoming 2003; M.S.W. 2005; Assistant Lecturer of Social Work 2023.

SARAH S. GREEN, B.A. University of Wyoming 2015; M.S.W. 2019; Assistant Lecturer 2021.

CHRISTINE VENCILL, B.S.W. University of Wyoming 2013; M.S.W. 2016; Assistant Lecturer of Social Work 2023.

Social workers are uniquely qualified to help people in their own environments by looking at different aspects of their lives and cultures. We work to ensure the client's personal well-being, prevent crises, counsel individuals, support families, and strengthen communities. We make sure people get the help they need, with the best resources available.

For more than 100 years, social workers have cared for people in every stage of life. Social workers help others overcome life's most difficult challenges and manage the troubles of everyday living, including the troubles that exist due to poverty, stress, addiction, abuse, unemployment, mental illness, family change, and social violence. Social workers advocate for social justice.

Undergraduate Study

The Division of Social Work prepares students for entry-level generalist social work practice. Two locations offer the social work program: the Laramie campus and the University of Wyoming-Casper campus. Graduates receive a Bachelor of Social Work (BSW) and are prepared to work as generalist social work practitioners with individuals, groups, families, organizations, communities, and institutions to achieve more effective and efficient social functioning.

Our program is accredited by the Council on Social Work Education. The curriculum is designed to help students acquire important knowledge and skills in the areas of values and ethics, diversity, social and economic justice, human behavior and the social environment, social welfare policy and services, social work practice, and research. A competency-based curriculum prepares students to meet an "initial level" of competence in nine core areas (CSWE, 2015). Students also select elective courses in areas such as aging, child and adolescent services, health and mental health, and disability services. The program culminates in a 450-hour supervised field practicum, which allows students to work as social workers in one of Wyoming's many human service agencies.

Social Work Major

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Application for Admitted Major status are due in the middle of the Spring semester or in the middle of the Fall semester. Students should apply during the semester they are completing all social work prerequisite courses. Acceptance to Admitted Major (professional degree program) is competitive and requires an application. Please see application requirements on the Division of Social Work website. Students accepted into the professional degree program are expected to complete their degree in a timely manner. Students who have not completed social work classes for one year or more must reapply for Admitted Major

and submit a plan for readiness to continue in the social work degree program. A plan may include, but is not limited to, repeating or auditing a course taken at an earlier point in the student's academic experience, completing an independent study that may provide updated social work content for the student, demonstrating knowledge or practice skills. Readmission is not guaranteed.

Criteria for Admission as an Admitted Major

The admissions process is competitive. Students must meet the following minimum criteria to be considered for Admitted Major status.

1. Students must earn a minimum grade point average (GPA) of 2.50000 on all UW coursework as well as all coursework transferred into the University of Wyoming from other acadmemic institutions.

2. Complete the following prerequisites: a. SOC 1000 b. PSYC 1000 c. POLS 1000 d. SOWK 2000 e. Human Biology (PSYC 2080 or KIN/ZOO 2040) f. STAT 2070 g. ECON 1010

3. Students must earn a grade of C or higher in all SOWK prerequisite classes.

4. Complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher.

5. Students must have at least 60 credit hours at UW or transferrable to UW.

6. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

7. Students cannot exhibit behavior that will impinge on the student's present or future ability to fulfill professional responsibilities as a social work professional.

8. All students seeking admission to programs in the College of Health Sciences are required to undergo a background check as specified by college policy. Criminal convictions may result in rejection of the candidate for admission to Admitted Major.

9. Students must submit an application and an application fee. (See UW Fee Book)

10. Applicants to the social work program cannot receive credit for life experience.

Requirements for Admitted Majors

Once admitted, social work students must:

1. Achieve a C or better in all social work courses, including six hours of required social work electives.

2. Social work classes are offered and must be completed in sequential order.

3. Maintain a 2.500 or above GPA overall every semester after admittance to Admitted Major.

4. Maintain a 2.500 or above GPA overall in all social work course work every semester after admittance to Admitted Major.

5. Registration is restricted and students must meet with their advisor each semester for enrollment.

6. Complete SOWK 4990 with a satisfactory grade.

7. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

Individuals failing to meet any of the above requirements will be reviewed by faculty and one of the following actions may be taken: remediation, probation, sanction, and/or dismissal from the program. Because many social work courses have prerequisite requirements, receiving a grade lower than a C in a social work course may prevent the individual from moving forward in the social work program.

BSW Field Practicum

All students complete a 450-hour (10 credit hours) field practicum experience in a community-based social agency or social program. Field practicum sites exist throughout the state of Wyoming and students may be placed outside Laramie. Students apply for this program the semester before their actual placement. Students must complete a Field Placement Application and meet with the Field Coordinator prior to determining a practicum site (please review Field Practicum Manual). Background checks and drug screenings may be required by some agencies even though the College of Health Sciences has received a background check during admission to the major.

For the practicum, a grade of U is interpreted as performing below expectations and will not be considered satisfactory completion of the practicum, hence of the BSW program. Based on input from the student, the field instructor, and the faculty liaison during the field evaluation, the field coordinator will determine what remediation would be required. The plan will clarify course objectives and professional skills upon which the student needs to improve. A student wishing to continue in the program would need to reapply for a field placement. Upon the field committee's approval of the request for placement, the student may then repeat the practicum experience. Consistent with University policy, the most recent grade would be the grade calculated into the GPA. The grade of U is interpreted as not meeting minimal requirements of the course; failure to complete the minimum clock hours in the field placement; failure to complete written assignments in a satisfactory manner; violation of one or more of the tenets of the NASW Code of Ethics (see Appendix B and Termination of Practicum section in the practicum manual); and/or failure to withdraw formally or to terminate the course. A student receiving a U in the practicum will be automatically dismissed from the BSW program with no opportunity to reapply or re-enter. Grades and dismissals may be appealed. (See most current BSW Student Handbook for appeal procedures.)

Requirements for Graduation

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only. USP H and PN courses must be taken outside the major subject but can be cross listed with the major.

BSW Curriculum

Social Work B.S.W. degree plan

Graduate Study

The Master of Social Work (MSW) prepares professional social workers for advanced-level social work practice and leadership positions in frontier and rural human service environments. The Advanced Generalist MSW program is accredited by the Council on Social Work Education. The MSW program graduates practitioners who work within and negotiate complex multi-dimensional problem settings for both clients and practitioners while embracing the profession's values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, competence, human rights, and scientific inquiry. The MSW full-

time, hybrid program, based in Laramie, WY, utilizes a variety of delivery methods to accommodate Standard (2 years) and Advanced Generalist (1 year) students. The MSW part-time program option, based in Casper, WY, offers the same curriculum and model delivery for Standard (3 years) and Advanced Generalist (2 years) students, but provides for greater flexibility of schedule.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program level. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum. Students who have already obtained the BSW degree may apply for the Advanced Generalist MSW program.

Master of Social Work Field Practicum

All students, regardless of status, participate in field practicum experiences. New students submit an initial application for placement, time depending on whether the student is in the full-time or part-time program. Foundation students must complete 900 practicum hours over the course of the Standard curriculum. Advanced Standing students must complete 500 hours over the course of the Advanced Generalist curriculum. All students in practicum must take a corresponding field seminar class.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy. Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

Wyoming School Social Work Certification

The Division offers the necessary requirements to obtain Wyoming School Social Work certification. Students in the last year of the MSW Program need to successfully complete SOWK 5810 Working with Children and Families in the Schools and complete their field placement within an approved school setting. Upon graduation, students must apply to the Wyoming Department of Education to obtain formal certification. For the most current certification information go to the PTSB website http://wyomingptsb.com/

Graduate Admissions Requirements

The Division of Social Work's Graduate Admissions Committee bases recommendations on review of all application materials (applicant's grades, personal essay, analytic essay, professional references, and any related social service experience) as they reflect the applicant's commitment to social work, social and economic justice, values and ethics of the social work profession, and applicant's potential as a graduate student, social work practitioner, colleague and leader in the social work field. The Committee also looks for the intangible qualities that an applicant brings to the classroom and campus environment and to professional social work.

Once the committee recommends admission of an applicant, the Office of Admissions in Academic Affairs makes the final decision of admission.

Requirements for the Standard MSW Program

• A bachelor's degree with a liberal arts foundation.

• An undergraduate cumulative grade point average (GPA) of 3.000 or above on a 4-point scale.

Requirements for the Advanced Standing MSW Program

• A bachelor's degree in Social Work from a Council on Social Work Education accredited social work program;

• An undergraduate social work GPA of 3.250 or above;

• An overall undergraduate GPA of 3.000 or above;

• Received a B or better and/or a Satisfactory grade in BSW Field Education Practicum.

*International students have special requirements for admission to UW. All are encouraged to contact the International Students and Scholars Office for details before applying.

All Applicants

What Application Reviewers Assess When Reading Personal & Analytic Essays

For both the personal essay and the analytic essay, the reviewers will:

- Assess students' preparedness for graduate studies.
- Confirm adherence to the formatting instructions for each document.
- Validate the use of credible sources cited in the essay that support students' analysis.
- Appraise grammar and spelling skills.
- Evaluate students' ability to think critically and respond in-depth.
- Assess students' ability to write a clear and well-organized response.
- Verify that all questions posed have been answered.

Reviewers will read personal essays to assess whether students have:

- Expanded beyond the desire to "help people."
- Demonstrated critical self-reflection.
- Shown knowledge and understanding of the social work profession.

Reviewers will read analytic essays to assess that students have:

- Described a social justice issue and its importance fully and clearly.
- Presented a well-thought-out approach to create change around the issue.

All applicants meeting minimum criteria will be considered for admission. Applicants will be required to complete a criminal background check through College of Health Sciences.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program phase. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum in the second year. Students who have already obtained the BSW degree may apply for Advanced Generalist in the MSW program. These students complete only the second-year courses.

Master of Social Work Field Practicum

All students, regardless of status, participate in a field practicum experience, starting in the fall semester. New students submit an initial application for placement upon acceptance into the program.

Foundation students will complete 900 hours in practicum over the course of their two years of study, 400 and 500 hours respectively. Advanced Standing students will complete 500 hours in their one year of study. All students in practicum will take a corresponding field seminar class each semester.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy.

Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

Major

Social Work, B.S.W.

Want to make a difference in the world? Turn your passion into action. Our BSW program combines classroom and field experience to provide you with knowledge and skills to help improve the quality of life of individual clients and impact communities.

Degree Requirements

This degree requires a minimum of 120 credits, 50 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites for Admission

Prerequisites for admission into the BSW program includes a C or higher in the following courses:

- SOC 1000 - Sociological Principles Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. & Wyoming Constitution USP requirement)
- SOWK 2000 - Introduction to Social Work Credits: 3
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4 (Meets Quantitative USP requirement)
- ECON 1010 - Principles of Macroeconomics Credits: 3
- Human Biology**.** Credits: 3. (PSYC 2080: Biological Psychology or KIN 2040: Human Anatomy)*

  *This requires a prerequisite general biology course, usually LIFE 1003: Current Issues in Biology. Be advised: All applicants must complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher and have at least 60 credit hours at UW or transferrable to UW.

Required courses after admission into the Social Work program

NOTE: Once admitted, social work students must achieve a C or better in all social work courses and maintain a 2.500 or above UW and SOWK GPA every semester after admittance to Admitted Major. Please view full requirements and expectations for admitted majors on the Division of Social Work catalog page.

- SOWK 3530 - Human Behavior and the Social Environment I Credits: 3
- SOWK 3630 - Generalist Social Work Practice I, Individual and Families Credits: 3
- SOWK 3645 - Ethical Social Work Practice Credits: 3
- SOWK 4060 - Diversity and Difference in Social Work Practice Credits: 3
- SOWK 3540 - Human Behavior and Social Environment II Credits: 3
- SOWK 3640 - Generalist Social Work Practice II, Groups Credits: 3
- SOWK 3650 - Generalist Social Work Practice III; Communities and Organizations Credits: 3
- SOWK 4850 - Human Rights, Social Justice and Social Policy Credits: 3
- SOWK 4560 - Social Work Research Credits: 3
- SOWK 4990 - Social Work Practicum Credits: 5-10 (5 credits each semester of final year). For full details of the BSW field practicum, view the Division of Social Work page.
- SOWK 4991 - BSW Field Seminar I Credits: 2
- SOWK 4570 - Research-Informed Practice Credits: 3 (Meets Communication III USP requirement)
- SOWK 4992 - BSW Field Seminar II Credits: 2
- Social Work electives Credits: 6 (selected with advisor consultation)

Electives

General Electives (28-29 credits)

Degree must include 120 credits total, at least 42 of which must be upper-division credits. Total number of general elective credit needed may vary per student. Consult with your academic advisor to determine the best electives for your particular interests or needs. It may be worthwhile to add a minor to your degree.

Suggested lower-division electives:

Below are suggested lower-division electives that can be taken before admission into the BSW program. Consult with your academic advisor to determine the best electives for your particular interests or needs. It may be worthwhile to add a minor to your degree.

- SPAN1010 - First Year Spanish I Credits: 4
- SPAN1020 - First Year Spanish II Credits: 4
- RELI1000 - Introduction to Religion Credits: 3
- WIND2100 - Introduction to Disability Studies Credits: 3
- SOC2350 - Race and Ethnic Relations Credits: 3

Suggested upper-division electives:

- FCSC 3110 Personal Finance Credits: 3
- FCSC 4112 Family Decision-Making and Resource Management Credits: 3

Additional Requirements

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Acceptance to Admitted Major (professional degree program) is competitive and requires an application. See the Division of Social Work catalog page for full admission requirements.

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only.

Graduate

Social Work, M.S.W.

Division of Social Work offers an MSW with a concentration in **advanced generalist social work practice**. The Standard Program is for non-BSW graduates; Advanced Standing Program is for students with a BSW. Part-time program available.

MSW Standard Program

- SOWK 5100 - Principles and Philosophy of Social Work Credits: 3
- SOWK 5115 - Social Welfare Policy: Human Rights and Social Justice Credits: 3
- SOWK 5120 - MSW Foundation Field Seminar I Credits: 1
- SOWK 5121 - MSW Foundation Field Seminar II Credits: 1
- SOWK 5200 - Human Beh & Soc Environmt I Credits: 3
- SOWK 5210 - Human Behavior and the Social Environment II Credits: 3
- SOWK 5300 - SW Generalist Practice I Credits: 3
- SOWK 5310 - Generalist Social Work Practice II Credits: 3
- SOWK 5400 - Social Work Generalist Research Methods Credits: 3
- SOWK 5450 - Field Practicum I Credits: 3
- SOWK 5460 - Field Practicum II Credits: 5
- SOWK 5500 - Advanced Policy: Advocacy and Social Action Credits: 3

- SOWK 5600 - Advanced Generalist Practice Credits: 3
- SOWK 5700 - Advanced Theories and Practice with Children and Families Credits: 3
- SOWK 5705 - Advanced Generalist Practice 3 Credits: 3
- SOWK 5720 - Leadership Prac in Comm & Orgs Credits: 3
- SOWK 5750 - Applied Research: Practice Evaluation Credits: 3
- SOWK 5850 - Advanced Field Practicum Credits: 2-10
- SOWK 5855 - MSW Advanced Field Seminar I Credits: 1
- SOWK 5856 - MSW Advanced Field Seminar II Credits: 1-8
- SOWK 5000 - Topics: Social Work Credits: 1-3
- SOWK 5755 - MSW Portfolio Credits: 1

  OR
- SOWK 5960 - Thesis Research Credits: 1-12

  TOTAL: 66-68 credits

NOTES

- **MSW Standard students must take one social work elective (3 credits) at any time during their program. The elective must be at the 5000 level.**

MSW Advanced Standing Program

- SOWK 5495 - Social Work Research and Analysis Credits: 3
- SOWK 5499 - Advanced Generalist Social Justice Practice Credits: 3
- SOWK 5500 - Advanced Policy: Advocacy and Social Action Credits: 3
- SOWK 5600 - Advanced Generalist Practice Credits: 3
- SOWK 5700 - Advanced Theories and Practice with Children and Families Credits: 3
- SOWK 5705 - Advanced Generalist Practice 3 Credits: 3
- SOWK 5720 - Leadership Prac in Comm & Orgs Credits: 3
- SOWK 5850 - Advanced Field Practicum Credits: 2-10
- SOWK 5855 - MSW Advanced Field Seminar I Credits: 1
- SOWK 5856 - MSW Advanced Field Seminar II Credits: 1-8
- SOWK 5000 - Topics: Social Work Credits: 1-3

  (3 credits)
- SOWK 5755 - MSW Portfolio Credits: 1

  OR
- SOWK 5960 - Thesis Research Credits: 1-12 (4 credits required total)

  TOTAL: 38-40 Credits

NOTES

- **The program can be completed on a full-time or part-time basis. Students must be admitted to a specific program option: full-time or part-time.**
- **MSW advanced students must take one social work elective (3 credits). The electives must be at the 5000 level.**

Wyoming Institute for Disabilities (WIND)

147 Health Sciences Building, (307) 766-2761
FAX: (307) 766-2763
Web site: www.uwyo.edu/wind
Interim Executive Director: Michelle Jarman, Ph.D.

Professor, Interim Executive Director:

MICHELLE JARMAN, B.A. University of California at Berkeley 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois at Chicago 2006; Professor of Disability Studies 2014, 2007.

Associate UCEDD Directors:

ERIC J. MOODY, B.S. Pacific Lutheran University 1998; M.A. University of Denver 2004; Ph.D. 2007; Postdoc University of Colorado School of Medicine 2011; Research Professor, Director of Research and Evaluation 2018.

CANYON HARDESTY, B.S. University of Wyoming 2004; M.S. 2007; M.S. Creighton University 2011; Associate Lecturer 2018, 2013.

Senior Lecturer:

SANDRA ROOT-ELLEDGE, B.S. University of Wyoming 2001; M.A. 2003; Senior Lecturer, 2018, 2009, 2004.

Associate Lecturer:

TERRI WOFFORD, B.S. University of Central Florida 1994; M.S. East Tennessee State University 1998; Associate Lecturer 2020.

The Wyoming Institute for Disabilities (WIND) is part of a national network of University Centers of Excellence in Developmental Disabilities Education, Research and Service (UCEDD). These centers provide a broad array of interdisciplinary academic, clinical, and research experiences of people with disabilities-particularly developmental disabilities. A wide variety of disciplines contribute to the study of disabilities.

WIND offers a Disability Studies Minor which investigates broad questions about the nature, meanings, and consequences of disability from interrelated social, historical, cultural, and political perspectives. The undergraduate minor in disability studies examines disability issues from multiple lenses, and draws specifically from social sciences, humanities, and health sciences.

Disability studies has an ethical commitment to place the interests and voices of people with disabilities at the center of our curricula and training activities. The minor balances theoretical exploration with practical application, and provides students with a vibrant understanding of disability history, cultural representation, policy concerns, and current debates. Ultimately, students in the minor will work closely with people with disabilities, and gain the skills and perspectives to participate in unique disability research and advocacy.

Minor

Disability Studies Minor

A diverse interdisciplinary field that investigates the nature, meanings, and consequences of dis/ability from social, cultural, and policy perspectives.

Program Goals:

Disability studies views disability as a political construction, cultural identity, and valued lived experience, not simply as a medical condition. The minor curriculum embeds these overarching goals:

- Promoting full civic integration of people with disabilities;
- Positioning disability as an integral aspect of human diversity; and
- Addressing disability rights, equity, and justice in personal, relational, community, and structural contexts.

Requirements:

All students in the minor are required to complete 18 credit hours consisting of three WIND core courses, one WIND elective, and two additional WIND or external electives related to disability studies. External electives should be selected in consultation with a disability studies faculty advisor.

Required Core Courses: 9 Credits

- WIND 2100 - Introduction to Disability Studies Credits: 3
- WIND 4020 - Disability Studies Theory and Practice Credits: 3
- WIND 4500 - Practicum Credits: 3

WIND Electives: 3-9 Credits

At least 3 credits, and up to 9 credits, selected from WIND electives:

- WIND 2400 - Gender and Disability Credits: 3
- WIND 2490 - Special Topics Credits: 1-3
- WIND 3150 - Literature and Medicine Credits: 3
- WIND 4050 - Independent Study Credits: 1-3
- WIND 4100 - Global Disability Studies Credits: 3
- WIND 4200 - Diverse Minds Credits: 3
- WIND 4300 - Transnational Disability Studies Credits: 3
- WIND 4600 - Special Topics Credits: 3

External Electives: 0-6 Credits

The following UW courses are accepted as external electives:

- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- EDEX 2484 - Introduction to Special Education Credits: 3
- SPPA 4070 - Deaf Studies Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3
- Note: many courses in GWST, AMST, and other units in the School of Culture, Gender, and Social Justice would also be acceptable external electives.

More Information:

As an interdisciplinary minor, this program complements majors across the university. For more information, visit the website: www.uwyo.edu/wind/disabilitystudies/index.html, contact program director, Michelle Jarman at mjarman@uwyo.edu or by phone at 766-5060, or visit the WIND office located in the Health Sciences Building, room 147.

18 Credit Hours Total

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753

FAX: (307) 268-2416

Web site: www.uwyo.edu/pharmacy/mlsprogram/index.html

Director: Jed M. Doxtater, MS MLS (ASCP)

Assistant Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Assistant Clinical Faculty of Medical Laboratory Science 2015.

Assistant Lecturer:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assistant Lecturer of Medical Laboratory Science 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

1. Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.

2. Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.

3. Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.

4. Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.

5. Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.

6. Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.

7. Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.

8. Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

• Application of safety and governmental regulations and standards as applied to clinical laboratory science;

• Principles and practices of professional conduct and the significance of continuing professional development;

• Communications sufficient to serve the needs of patients, the public and members of the health care team;

• Principles and practices of administration and supervision as applied to clinical laboratory science;

• Educational methodologies and terminology sufficient to train/ educate users and providers of laboratory services;

• Principles and practices of clinical study design, implementation and dissemination of results;

• Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and

biohazard and safety

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program they become eligible to sit for national certification

examinations for the profession. The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs. *Contract information:* National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119 http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

• Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.

• Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.

• Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.

• Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory

Science degree.

See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Upon completion of the prerequisite requirements of the program, students may apply to the professional program in the fall semester of their senior year. Applications for the program must be submitted to the MLS program director before finals week of the fall semester prior to entering the professional program Advanced Clinical Practicum (ACP) coursework. It is the students' responsibility to complete and submit applications by the defined due date.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

Prior to participating in the enrichment experience, students may be subjected to that agency's requirements for HIPAA training, a background check, drug testing and/or drug abuse prevention policies. Students may be subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background checks should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo).

Students must meet the vaccination and health insurance requirements of the university. Vaccinations are available through the county health department or through student health on the UW-C campus, and liability health insurance is available through the University of Wyoming. Current enrichment site affiliates do not require a background check, drug screen or proof of vaccination, as the university vaccination requirements exceed that of the facility. If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program

director for approval. This notification should occur well in advance to entering the professional program. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR and program director, to ensure all required documentation is provided. The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

• Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.

• Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.

• Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.

• Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

• Move freely and safely about a laboratory.

• Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.

• Travel to numerous clinical laboratory sites for practical experience. • Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.

• Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.

• Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.

• Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.

• Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

• Read and comprehend technical and professional materials.

• Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.

• Clearly instruct patients prior to specimen collection.

• Effectively, confidentially and sensitively converse with patients regarding laboratory tests.

• Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.

• Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

• Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.

• Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.

• Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.

• Be flexible and creative and adapt to professional and technical change.

• Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.

• Adapt to working with unpleasant biologicals.

• Support and promote the activities of fellow students and of health care professionals.

• Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.

• Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

Requirements for the Bachelor of Science in Medical Laboratory Science

Medical Laboratory Science, B.S. degree plan

Dental Hygiene

Health Sciences Advising Office

Craig Vaske, Manager

Phone: (307) 766-3878

Email: hsadvise@uwyo.edu

Web site: http://www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html

The University of Wyoming and Sheridan College offer a cooperative program of dental hygiene education which, when completed, results in two degrees. An Associate of Applied Science degree in dental hygiene is awarded by Sheridan College following completion of the prerequisites and dental hygiene prescribed study. An optional Bachelor of Science in Dental Hygiene (BSDH) degree is awarded by the University of Wyoming following completion of the Associate of Applied Science in dental hygiene, the University Studies Program, and other requirements of the University of Wyoming, for a total of 120 credit hours including 42 upper level hours, 30 of which must be from the University of Wyoming. See www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html.

The American Dental Association has awarded full accreditation to the Associate of Applied Science degree in dental hygiene at Sheridan College. Graduates are eligible to take the National Board of Dental Hygiene exam, as well as regional and state exams for licensure, as registered dental hygienists.

Applicants should visit www.sheridan.edu/academics/programs-a-z/dental-hygiene for specific prerequisites and application materials. Applications are due to Sheridan College prior to February 15 of the year they wish to enter the program. Class sizes are limited. Admission is contingent upon successful completion of a background check.

In order to be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed on Dental Hygiene, B.S.D.H. Courses in anatomy, physiology, and microbiology must be current within five years at the time of application to the Dental Hygiene professional program. Students must also complete a minimum of 20 hours of dental hygiene observation prior to application. Completion of the prerequisite courses and observation does not guarantee admission to the professional program. If admitted, students complete their coursework in Sheridan, Wyoming.

Prospective applicants can take prerequisite courses at any accredited higher education institution. To view a list of prerequisites, see the degree program page in this catalog. Students who are completing prerequisite courses at the University of Wyoming are advised by the Health Sciences Advising Office (hsadvise@uwyo.edu). These students apply to UW as "Pre-Dental Hygiene" students.

NOTE: This major is not appropriate for students preparing to apply to dental school.

Learning Outcomes

The primary objective of the program is to assure that graduates have knowledge and abilities necessary to successfully practice dental hygiene.

Major

Dental Hygiene, B.S.D.H.

Dental hygienists play an important role in promoting health by helping patients understand the connection between good oral health and an overall healthy body. They provide patient education and individualized therapeutic services to help patients reach their oral health goals.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Prerequisites

Students interested in the bachelor's degree in dental hygiene should contact the Health Sciences Advising Office at Health Sciences 110, phone (307)766-3878, e-mail: hsadvise@uwyo.edu.

To be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed below. These may be taken at any accredited institution, but if taken at the University of Wyoming, the course numbering will be as follows:

- MATH 1400 - College Algebra Credits: 3
- LIFE 1010 - General Biology Credits: 4
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR CHEM 1020 General Chemistry I

- MICR 2021 - General Microbiology Credits: 4
  OR MOLB 2021 General Microbiology
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4

UW Requirements for the BSDH Degree

To receive a BSDH through the University of Wyoming, students must also take the following courses:

- Program prerequisites
- A.A.S. in Dental Hygiene from Sheridan College (competitive application required)
- Completion of all USP requirements, including the US and Wyoming Constitutions (USP-V) and Communication III (USP-COM3) requirements
- STAT 2050 or STAT 2070
- At least 120 credits hours, 42 of which are upper-division credits. This usually requires the completion of additional upper-division elective credits. Note: talk to an advisor to know whether you need to fulfill any additional credits toward your BSDH (hsadvise@uwyo.edu).

Required Courses

Required courses after admission to the Dental Hygiene program at Sheridan College (NWCC-D):

Sheridan College Courses

Sheridan College courses, taught ONLY at Sheridan College in Sheridan, WY.

- DHYG 2100 - Dental Health Education Credits: 3
- DHYG 2300 - Preclinical Dental Hygiene Credits: 3
- DHYG 2305 - Clinical Dental Technology Credits: 1
- DHYG 2405 - Dental Anatomy Credits: 2
- DHYG 2450 - Oral Radiology Credits: 3
- DHYG 2451 - Oral Radiology Lab Credits: 1
- DHYG 2470 - Orientation to Dental Hygiene Credits: 3
- DHYG 2200 - Pharmacology Credits: 2
- DHYG 2210 - Dental Embryology & Histology Credits: 2
- DHYG 2350 - Clinical Dental Hygiene I Credits: 3
- DHYG 2400 - Head, Neck, and Oral Anatomy & Physiology Credits: 2
- DHYG 2420 - Clinical Seminar I Credits: 2
- DHYG 2455 - Dental Materials Credits: 2
- DHYG 2456 - Dental Materials Lab Credits: 1

University of Wyoming Courses

University of Wyoming courses (details below), taught ONLY at Sheridan College in Sheridan, WY.

- DHYG 3230 - Clinical Seminar II Credits: 2
- DHYG 3300 - Clinical Dental Hygiene II Credits: 5
- DHYG 3400 - General and Oral Pathology Credits: 3
- DHYG 3600 - Ethics and Law in Dental Hygiene Credits: 2
- DHYG 3750 - Periodontology Credits: 3

- DHYG 3770 - Pain Management Credits: 2
- DHYG 3775 - Pain Management Lab Credits: 1
- DHYG 3250 - Clinical Seminar III Credits: 2
- DHYG 3350 - Clinical Dental Hygiene III Credits: 5
- DHYG 3550 - Community Dental Health Credits: 3
- DHYG 3720 - Office Practice Credits: 2
- DHYG 3800 - Board Review Credits: 1

College of Law

College of Law

101D Law Building
Julie Hill, Dean
Phone: (307)766-6416 FAX: (307)766-6417
Web site: www.uwyo.edu/law

Professors:

KLINT ALEXANDER, B.A. Yale University 1991; Ph.D./M.Phil. Cambridge University 1997; J.D. University of Virginia 1999; Professor of Law 2015.

MELISSA ALEXANDER, B.A. Yale University 1996; J.D. University of Virginia 1999; Professor of Law 2019, 2015.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Associate Dean for Academic Affairs and Professor of Law 2008, 2002.

DANIELLE R. COVER, B.A. University of Maryland 1994; J.D. Tulane University School of Law 1997; Professor of Law 2020, 2014; Director of Legal Services Clinic.

JAMES M. DELANEY, B.A. University of Washington 1985; J.D. Gonzaga University School of Law 1992; LL.M. in Taxation, University of Florida 1997; Professor of Law 2013.

STEPHEN M. FELDMAN, B.A. Hamilton College 1977; J.D. University of Oregon 1982; J.S.M. Stanford University 1986; Jerry W. Housel/ Carl F. Arnold Distinguished Professor of Law 2002.

JULIE HILL, B.S. Southern Utah University 1998; J.D. Brigham Young University 2001; Dean and Professor of Law, 2024.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

SAM KALEN, B.A. Clark University 1980; J.D. Washington University 1984; Professor of Law; Associate Dean 2014, 2009.

GEORGE MOCSARY, B.E. The Cooper Union School of Engineering 1995; MBA University of Rochester 1995; J.D. Fordham University School of Law 2009; Professor of Law 2019.

NOAH B. NOVOGRODSKY, B.A. Swarthmore College 1992; J.D. Yale Law School 1997; Professor of Law 2013, 2009.

TARA RIGHETTI, B.A. University of Colorado Boulder 2005; J.D. 2007; Professor of Law 2020, 2014.

JASON ROBISON, B.S. University of Utah 2003; J.D. University of Oregon 2006; LL.M. Harvard Law School 2009; S.J.D. 2013; Professor of Law 2019, 2015.

ALAN ROMERO, B.A. Brigham Young University 1990; J.D. Harvard University 1993; Professor of Law 2007, 2003.

MICHAEL R. SMITH, B.S. Florida State University 1982; J.D. University of Florida 1985; Professor of Law 2006.

Associate Professors:

JERRY FOWLER, B.A. Princeton University 1983; J.D. Stanford University 1990; Associate Professor of Law 2023, 2019; Director, International Human Rights Clinic.

LAUREN MCLANE, B.S. Radford University 2002; J.D. Seattle University School of Law 2008; Associate Professor of Law 2021, 2018.

DONA PLAYTON, B.S. University of Wyoming 1989; J.D. University of Wyoming 1993; Associate Professor of Law 2002, 2018; Director, Family and Child Legal Advocacy Clinic.

Assistant Professors:

MEREDITH ESSER, B.A. Dartmouth College 2003; M.S. London School of Economics and Political Science 2005; J.D. Georgetown University Law Center 2010. Assistant Professor of Law 2023; Director, Defender Aid Clinic.

RACHEL NGO NTOMP, L.L.B**.** University of Geneva 2015; L.L.M. University of Geneva 2017; L.L.M. Boston University School of Law 2022; Assistant Professor of Law, 2024.

CARYN SCHREIBER, B.A. Binghamton University 2008; J.D. Brooklyn Law School 2012; Assistant Professor of Law 2024.

Professor of Practice:

KIPP CODDINGTON, B.S. Purdue University 1986; J.D. Georgetown University Law Center 1993; Professor of Practice; Director of Energy, Environment, and Natural Resources Clinic; Director of Externships 2023.

Academic Professionals:

LINDSAY HOYT, B.A. University of Wyoming 1999; J.D. University of Wyoming 2003; Assistant Dean 2017.

TAWNYA PLUMB, B.A. University of Wyoming 1996; M.L.I.S. University of Texas at Austin 1998; Electronic Services and Law Librarian, Director of Law Library 2023, 2004.

Professors Emeritus

Debra L. Donahue, Harvey Gelb, Timothy Kearley, Dee Pridgen, Elaine A. Welle, Kenneth D. Chestek.

Academic Professionals Emeritus

Debora A. Person

The College of Law was founded in 1920. The goal of the college is to provide a sound and thorough education in the law that will prepare the student to practice law in accordance with the highest standards of professional competence and responsibility. The emphasis in instruction is on analysis and understanding of legal principles and the development of skills necessary to the practice of the profession. The course of study will prepare a graduate to practice in any jurisdiction which has adopted the Anglo-American system of law.

The curriculum of the College of Law consists of three years of study within the college. Required courses necessary to basic legal knowledge make up the first two semesters of study, while courses in the final four semesters are largely elective. Students become eligible to receive the Juris Doctor (J.D.) degree upon successful completion of 90 semester credit hours of law courses with a grade point average of at least 2.000.

The college acts as a law center for Wyoming. It serves lawyers, judges, and government by a program of continuing legal education for attorneys and others interested in significant legal developments, by research projects aimed at improving state law, and by publishing the Wyoming Law Review.

Accreditation

The college is approved by the American Bar Association and its graduates are eligible for admission to the bar in every state. A student planning to practice in a particular state should check its rules for admission to the bar.

The college is also a member of the Association of American Law Schools. Membership is conditioned upon the maintenance of an adequate teaching staff and library, the offering of a sound educational program and adherence to prescribed standards for the admission and graduation of students.

Prelegal Curriculum

There is no prescribed or required set of courses for prelegal work. A student must usually have a B.A. or B.S. degree before beginning the professional study of law. There are no restrictions on the field in which the degree is earned. A master's degree is not required for admission to law school.

The objective of prelegal study should be to acquire knowledge and skills useful in the study and practice of law. College study should prepare the student for law school by developing language comprehension and use, understanding of political, economic, social and cultural institutions, and the ability to think logically and creatively. Courses promoting these objectives are included in the basic requirements for most undergraduate degrees. The choice of a major should be determined by the student's academic interest and professional objective in law.

Valuable background may be acquired through the study of english, history, philosophy, economics, political science, psychology, sociology, business administration, mathematics and the natural sciences.

For additional information, see the College of Law web site, (www.uwyo.edu/law).

Admission Requirements and Procedures

Admission to the professional curriculum in law is granted by the admissions committee of the College of Law. The College of Law restricts the number of entering students to a class size consistent with its facilities and its educational objectives. In evaluating an application, the committee considers the applicant's undergraduate college scholastic record and score on the Law School Admission Test (LSAT).

Other criteria relevant to the probability of success in the study and practice of law will also be considered.

- Prior to beginning work in the College of Law, applicants must have a bachelor's degree from an accredited college or university, unless they have requested and been granted following exception:
- An applicant who needs not more than 6 semester hours of college credit to qualify for a bachelor's degree may be admitted in exceptional cases to law school if the committee determines that the applicant has sufficient education and preparation for the study of law; has an outstanding undergraduate scholastic record; and has an approved program signed by the appropriate undergraduate official indicating that the remaining requirements for the bachelor's degree may be met by summer school attendance or by other means that will not interfere with the study of law.
- Every applicant must take the Law School Admission Test (LSAT). Information about the test, the dates on which it is given, where/how it is taken, sample questions and an application form, may be obtained from Law School Admission Council, Box 2000, Newtown, PA 18940, by phone at (215) 968-1001, online at www.lsac.org.
- Every applicant must register and pay the associated fees with the Law School Admission Council Credential Assembly Service. CAS registration may be done through the LSAC website (www.lsac.org). The CAS will prepare a report that is transferred to the college where the applicant has applied.
- Every applicant must complete the electronic University of Wyoming College of Law Application through LSAC between September 15 and April 30. Applications that are received and complete by December 15 will be considered for early admission.
- Every applicant must pay the College of Law $50 Application Fee located at: https://secure.touchnet.net/C27222_ustores/web/store_main.jsp?STOREID=14&SINGLESTORE=true
- If admitted, official transcripts must be sent directly to the College of Law from each college attended and must be on file in the Admissions Office at least 30 days before the student's registration date.

Application Deadline

An initial entering class will be selected from completed applications on file on April 30. Students who submit a complete application, and it is received by the College of Law, by December 15 will be considered for early admission. An application is complete only when the college has received the LSAT score, and transcripts included in the CAS report, applications, and all supporting documents provided by the applicant.

Admission With Advanced Standing

Transfer students are admitted only when the College of Law facilities and curriculum permit. A transfer student may transfer a minimum of 30 credits, and up to the number of credits the student could have earned had the student completed their first year at the University of Wyoming College of Law. Transfer credit will be given only for courses in which the student earned a grade of C or higher. If admitted, the student must satisfy the requirements for graduation established by the College of Law, including such other requirements as may be imposed as a condition of admission. Students interested in transferring should contact the College of Law for information concerning application procedures. The transfer student application opens May 15th and closes July 1st, through LSAC.

Academic Regulations

The Juris Doctor (J.D.) degree is awarded by the College of Law faculty to candidates who meet the following requirements:

Curriculum is subject to change at the College of Law Faculties discretion, which may cause the annually updated university catalog to be out of date. For students matriculating in or after the fall 2013 semester, each student must successfully complete (grade of "D-" or better for courses taken at this school, grade of "C" or better for courses taken elsewhere) 90 credit hours (required for graduation) of law coursework in accordance with the official curriculum as adopted by the College of Law faculty. At least 59 of these credits must be completed at the University of Wyoming College of Law. Courses taken for S/U grades count toward the hours required for the J.D. degree only if the course is offered for the S/U grade only. Regardless of the matriculation date, students must complete at least 76 credit hours through graded (A-F) courses.

The course of study must be completed no earlier than 24 months (2 years) and not later than 84 months (7 years) after a student has commenced law study. No student shall be permitted to enroll at any time in coursework that, if successfully completed, would exceed 20 percent (18 hours) of the total coursework required for graduation.

Second and third year students may take up to six of 90 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students must receive a letter grade of B or better for these non-law courses to count toward graduation requirements. Additionally, these courses will transfer in with a satisfactory grade of 'S' and will not impact their law school GPA. Students who wish to enroll in a non-law course on this basis must secure the prior approval of the course professor and the Associate Dean of Academic Affairs at the College of Law. Approval will be based on the student's submission of a Non-Law Grad Course Request form with a brief written statement explaining how the proposed coursework relates to and enhances the student's legal education. Students should be aware that non-law courses completed on this basis will not count toward the 76 hours that students must complete in graded courses as a requirement for graduation. The non-law coursework will instead be counted as credits the law students are permitted to take on an S/U ba

Independent study writing credits: A student may earn one or two credits for an independent study writing project, as agreed by the student and supervising professor and approved by the Assistant Dean for Student Affairs. One credit requires at least 50 hours of work and two credits requires at least 100 hours of work. Up to three of the credit hours required for graduation may be independent study writing credits.

The College of Law automatically approves up to 9 hours of any joint degree core courses with the corresponding prefix to their joint degree (i.e. MBAM, POLS, ENR) that meet the grade requirement, of a letter grade of B or better, to transfer in toward their law degree. However, if a student drops their dual degree, any non-law courses are subject to review and approval based on the criteria in the previous paragraph. Additionally, if courses are needed outside of these respective prefixes, these will be approved on a case by case basis. Those students enrolled in a joint degree program may take up to 9 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students in a joint degree program who use 9 non-law credit hours toward their J.D. degree may reduce their required number of graded credits from 76 to 73 so that they can participate in other S/U offerings at the College of Law. To receive law school credit for the non-law course, a student will be required to earn a grade of B or better in the non-law course. The grade will not count, however, toward the student's law school GPA. The course will be counted as a "satisfactory" grade for purposes of the student's law school GPA. Joint degree students should be aware that non-law courses completed on this basis will not count toward the 73 hours that joint degree students must complete in graded courses as a requirement for graduation. The non-law coursework will instead be counted as credits the law students are permitted to take on an S/U basis.

To graduate, all students must earn a cumulative grade point average of 2.000 for all courses taken at the College of Law. If a course is repeated, both grades shall be included in computing the average. The student, except in exceptional circumstances, must have a baccalaureate degree. Candidates who meet these requirements are eligible for graduation at the end of any semester.

Academic Standing

The following requirements apply to any coursework at the College of Law. Courses that law students may complete outside of the College of Law do not count in calculation of the required College of Law grade point average (GPA).

In the first year, a student who fails to make a 1.800 GPA after the first semester, or fails to make a 1.900 cumulative GPA overall in the first year's work, shall be excluded from the College of Law. A student who at any time fails to make a passing grade in two of the courses for which the student is registered in any semester shall be excluded from the College of Law.

A student who enters the second year with a GPA lower than 2.000 but at 1.900 or above, or who fails to maintain a 2.000 cumulative GPA after the first year, shall be placed on academic probation. A student on academic probation who does not attain an overall grade point average of 2.000 within one semester shall be excluded.

A student excluded from the College of Law may petition the faculty for readmission. The faculty may, in its discretion, readmit the student upon receipt of satisfactory evidence of extenuating circumstances or marked improvement in grades and study habits. Readmission may be subject to conditions, including, but not limited to, the repeating of any or all courses, as the faculty may decide. If a student's petition for reinstatement is denied, the student must wait nine months before petitioning again for readmission. Also, all students are limited to two petitions for readmission. The entire faculty will automatically hear and consider a student's initial petition. In the event of a second petition for readmission, a committee selected by the Dean will hear and consider the petition. The committee will present a report and recommendation to the faculty for adoption. Denial of a second petition is final.

Advanced Writing Requirement

As a condition of graduation, all students must complete an upper-level writing requirement consisting of a research paper of a minimum length of 5,000 words, exclusive of footnotes. All students must follow a designated standard citation form. Students must submit a detailed outline of the paper to the supervising professor, then must rewrite the paper at least once after the professor reviews the first draft. With the professor's approval, the student can meet the advanced writing requirement in any law school elective course, including a seminar, as long as the above requirements are met. The supervising professor must certify that the writing requirement has been fulfilled.

All student articles written for law review, whether published or unpublished, must have a supervising faculty member and otherwise meet all other provisions of the College of Law Advanced Writing Requirement. A student may also fulfill the requirement through an independent study or by writing a case note or comment for the law review, under the supervision of a professor. It cannot be satisfied through participation in a clinic.

Attendance Requirement

In accordance with American Bar Association Standard 308(a),[1] students must attend at least 75 percent of scheduled classes in each course. A professor may impose a minimum-attendance requirement of greater than 75 percent if the policy is communicated in writing before or during the first day of class. The law school will

not differentiate between excused and unexcused absences under this policy. Rather, the minimum-attendance requirement of 75 percent accounts for all student absences regardless of causation.

A student who does not comply with the minimum-attendance requirement will be dropped from the course and receive a grade of F, unless extenuating circumstances are present, in which case the student will be dropped from the course and receive a grade of W. A professor may impose sanctions for students who comply with the minimum-attendance requirement, but who violate additional attendance guidelines specified for the course, if such guidelines and sanctions are communicated in writing before or during the first day of class.

A professor may allow students to participate in class via virtual platforms (*e.g.*, Zoom), but students who participate in this manner will be counted as absent regardless of causation. If a professor must schedule a class meeting over a virtual platform (*e.g.*, Zoom), students who participate in the class meeting over the virtual platform will not be counted as absent.

The tables below identify how many classes students must attend to comply with the minimum-attendance policy in three-credit and two-credit courses based upon the number of class meetings. For one-credit and four-credit courses, students must verify with the professor the number of classes required to comply with the minimum-attendance requirement.

Table 1. Three-credit course meeting twice per week for 80 minutes each session, or

Two-credit course meeting twice per week for 55 minutes each session:

Class Meetings	Minimum Attendance
26	20
27	21
28	21

Table 2. Three-credit course meeting three times per week for 55 minutes each session:

Class Meetings	Minimum Attendance
40	30
41	31
42	32

Class Rank

Students are ranked by class at the end of each of the fall and spring semesters once the faculty have submitted all grades. Class rankings will be available in the Front Office. Students can choose to have their spring class ranking letter mailed to them if they provide the Front Office with a self-addressed, stamped envelope.

Transfer students to the College of Law shall not be ranked with other UW students until they have completed two full-time semesters at UW (or a minimum of 24 UW credits). Students who visit out at other ABA accredited law schools or who graduate early are ranked based on their ranking at the end of their last semester at UW.

Experiential Learning Requirement

As a condition of graduation, each student must successfully complete no fewer than 6.0 credit hours in experiential learning courses. Experiential learning courses include a simulation course, a law clinic, or an externship field placement. Simulation courses provide substantial experience not involving legal representation of an actual client, that (1) is reasonably similar to the experience of a lawyer advising or representing a client or engaging in other lawyering tasks in a set of facts and circumstances devised or adopted by a faculty member; and (2) includes: direct supervision of the student's performance by the faculty member; opportunities for performance, feedback from a faculty member, and self-evaluation; and a classroom instructional component (ABA Standard 303).

Typically students may fulfill the experiential learning requirement by successfully completing 6.0 credit hours in any of the following upper- class elective courses:

Advanced Appellate Advocacy (LAW 6520)
Advanced Legal Research (LAW 6990)
Advanced Oil & Gas Law (LAW 6992)
Advanced Persuasive Writing (LAW 6925)
Alternative Dispute Resolution (LAW 6915)
Business Planning (LAW 6560)
Civil Pretrial Practice (LAW 6565)
Clinic: Civil Legal Services (LAW 6930 or LAW 6931)
Clinic: Defender Aid (LAW 6932 or LAW 6930)
Clinic: Energy, Environ. & Natural Resources (LAW 6933 or LAW 6930)
Clinic: Family & Child Advocacy (LAW 6930 or LAW 6934)
Clinic: International Human Rights (LAW 6930)
Clinic: Prosecution Assistance (LAW 6930 or LAW 6936)
Contract Drafting (LAW 6935)
Estate Planning (LAW 6670)
Estate Planning Practicum (LAW 6937 or LAW 6930 or LAW 6915)
Externships (LAW 6960)
Interviewing, Counseling & Negotiation (LAW 6166 or LAW 6915)
Summer Trial Institute (LAW 6850)
Trial Practice (LAW 6850)

Note: classes may be removed from and/or added to this list each semester.

Grading

Grades are assigned on a plus/minus system. Grades of incomplete (I), and withdrawal (W), are disregarded. A required course in which a grade of F or W or U is received must be repeated. A course cannot otherwise be repeated without the consent of the faculty. If a course is repeated, both grades are included in computing the student's grade point average.

A 4.00	B + ...3.333	C+ 2.333	D+ 1.333	F 0.000

A- 3.667	B 3.000	C 2.000	D 1.000	WF 0.000
	B- 2.667	C- 1.667	D- 0.667	

Satisfactory (S) or unsatisfactory (U) grading applies only if the course is offered on an S/U basis or a student takes a non-law graduate-level course as explained above. Students from other colleges who are permitted to take professional courses in the College of Law must take them for S/U credit. The grading scale is at discretion of the instructor for each course.

Mandatory Legal Writing Grade Policy: Under Law School policy, for each section of the Legal Writing I and II courses, the mean final grade for all students in the section must fall between 2.505 and 2.835. The range 2.505-2.835 falls around a B- (2.67), with the upper limit being halfway between a B- and a B and the lower limit being halfway between a B- and a C+.

Bar Exam Passage Rate Improvement Program

Students matriculating after August 2021, a student whose first-year GPA is in the bottom one-third of the class will be required to pass four of the following courses as a requirement of graduation: Business Organizations (or one of either Agency and Partnership or Corporations); Secured Transactions; Trusts and Estates; Criminal Procedure; Criminal Adjudication; Family Law; Constitutional Law II; or Real Estate Finance. During the fall and spring semesters after the 1L year it is required to take at least one of these courses as a minimum each semester, until the requirement has been satisfied.

In order to graduate, a student whose first-year GPA is in the bottom one-third of the class will also be required to take and pass a law school-offered bar examination course as a 3L (typically in their final spring semester), unless for unanticipated reasons the College of Law does not offer that course in a particular year.

Curriculum

Required Courses: First (1L) Year Students (*Additional courses cannot be taken the first year without special permission from a dean***).**

Fall Semester

Civil Procedure I (6240) - 3

Contracts I (6110) - 3

Legal Research (6165) - 1

Legal Writing I (6160) - 3

Property I (6120) - 3

Torts I (6130) - 4

Spring Semester

Civil Procedure II (6340) - 2

Constitutional Law I (6250) - 3

Contracts II (6210) - 2

Criminal Law (6140) - 3

Legal Writing II (6260) - 2

Property II (6220) - 2

Required Courses: Second (2L) Year Students (offered once per year)

Evidence (6410) - 3

Professional Responsibility (6420) - 3

Elective Courses: Second (2L) & Third (3L) Year Students (* subject to availability)

See Law Courses section

Honor Code System

Students enrolled in the College of Law are engaged in a course of study leading to membership in the legal profession. The profession requires adherence to high ethical standards and the assumption by its members of responsibility for the maintenance of those standards. Accordingly, the College of Law has adopted an Honor Code addressing misrepresentations, theft, the use of library materials, the preparation of course work, and the conduct of examinations, along with procedures for alleged violations. A copy of the Honor Code is given to each new student who enters the College of Law. All students are governed by the Honor Code and are required to sign a pledge to abide by and be subject to the provisions of the code. See the Honor Code section of the handbook for more details.

Graduation with Honors

The degree of Juris Doctor is awarded with honors if the student achieves a grade point average of 3.400 or better on all resident credit in the College of Law.

Honor Roll

Students enrolled in a minimum of 12.0 semester hours of law courses carrying A-F grades, and who have no semester grades of incomplete (I), are eligible for the President's Honor Roll and the Dean's Honor Roll. Students with a semester average of 4.000 will be named to the President's Honor Roll. First-year students with a semester average of 3.250 or better and second-year and third-year students with a semester average of 3.400 or better will be named to the Dean's Honor Roll.

Minimum Hours

The College of Law does not permit students to attend on a part-time basis. Students are required to take the full load of required courses during their first two semesters and to carry at least 9 credit hours in law courses in each of the remaining semesters of law study. Notwithstanding, if a student has less than 9 credits remaining in their final semester of study, then said student may register for only the number of remaining credits (e.g. if a student only has 4 credits left to graduate, that student will only be required to register for 4 credits). First year students will be allowed to take less than the full load of required courses only if they present exceptional circumstances, as determined by the Dean or his/her delegate

Transfer Credits

The College of Law admits transfer students only in the fall of their second year. A student granted transfer admission may transfer credits earned in courses taken at another ABA-accredited law school toward a degree from the UW College of Law up to the number of credits that a traditional UW student would have earned during the student's first year at the University of Wyoming (31credits as of the 2020-21 academic year). In addition, University of Wyoming law students who visit out for a semester or full year may also transfer credits from other ABA approved law schools, as long as 59 credits are completed at the University of Wyoming. The College of Law will also accept up to 15 hours of transfer credit from another ABA accredited school for an international student previously enrolled in an LL.M. or other post-J.D. program. To receive transfer credit from a course, a grade must be a "C" or better. Transfer credits are recorded on the JD transcript as an "S" (Satisfactory), instead of graded credits. All transfer credits must be approved by the Associate Dean of Academic Affairs in advance.

Withdrawing from a Course &/or the University

Failure to attend class or failure to pay tuition does not constitute withdrawal from a class or from the University. Students who pre-register for classes on WyoWeb will be assessed tuition and fees. Students who drop or withdraw from their last or only class for a given term after the end of the drop/add time period must also meet with the Assistant Dean of the College of Law and complete the official withdraw forms required by the Office of Registrar. Financial aid recipients who withdraw from courses or reduce credit hours must consult with a financial aid counselor regarding repayment of financial aid funds if applicable. For more complete details regarding deadlines, refunds, and cancellations, see the University's Accounts Receivable web page http://www.uwyo.edu/fsbo/accounts-receivable/

Exam Procedures and Policies

- Review the Honor Code before beginning the exam period. It applies to all examinations. If you have any questions about the materials allowed by a professor, please see the professor in advance of the exam.
- A copy of the final exam schedule will be posted on the web, please check dates and times carefully.
- We use exam numbers, rather than students' names, so that professors cannot identify the students' exams they are grading. Exam numbers will be available in ExamSoft one to two weeks before the exam period. You must write this number on all of your exams and blue books, or as your identification number for typed exams. **DO NOT** write your name on your exam. Midterm exams and final exams have unique numbers. Save these numbers, as you will use the same number for all of your midterm and final exams respectively. New numbers are assigned each semester.
- All examinations must be: (A) written in ink in 8 1/2 x 11 size "blue books," OR (B) typed on the student's laptop using the ExamSoft software. Students provide their own blue books, pens or laptops. The law school will supply answer sheets and pencils for any multiple choice exams.
- If you are using a laptop:
- Examplify (SofTest) is operable for PC's and Mac's. Please reference this site for the most up to date Minimum System Requirements, Examplify: Minimum System Requirements - ExamSoft

- You must download the exam software (free for students) well in advance of the exam day.
- Have your laptop set up and the software running in the designated room before the time to begin the exam.
- Instructions for using the ExamSoft Examplify (SofTest) software are available at the Examsoft website (use Chrome or Firefox ONLY).
- If you experience any problems with your computer during the exam, come to the front office immediately and someone will assist you.
- Once you complete the exam, and have turned in your exam questions, be sure you receive the "upload successful" message to assure that your exam answers have been transmitted.

6. All exam reschedules must be approved by COL Assistant Dean, Lindsay Hoyt or the Registrar. You must meet the criteria published within the exam schedule to reschedule an exam, i.e., two exams on one day, three exams in three days, or four exams in five days. Fill out the exam reschedule request form and turn it into COL Registrar, Dave Bluemel. Please note, that if possible, an elective will be rescheduled rather than a large required class, and rescheduled to a later, rather than an earlier date.

7. Students who are handwriting their exams must return the exam questions and blue books to a staff member in the lobby outside the Dean's office at or before the time indicated on the exam. Laptop users should exit the exam software and turn in the exam questions to a staff member at or before the time indicated. It is your responsibility to determine the precise time the exam is to be returned and to ensure that you meet the deadline. Use the clock in the exam room for reference, not the clock that may appear on your computer or the time on your wristwatch.

8. During the exam, turn off (or leave outside the room) all cell phones, smart watches, pagers, and PDA's. Do not leave them on vibrate, as this may be disturbing to other students.

9. When you finish your exam, please be courteous/quiet as you gather your belongings and leave the exam room. You MAY NOT return to the room to gather your belongings after you have turned in your exam, unless it is after the collection time indicated on the exam. **B**e aware that students are taking exams in both the morning and the afternoon and are taking exams that have differing ending times -- so please curb your talking in the classroom areas and halls during the administration of exams.

10. If you cannot take the exam at the set time due to illness, or other emergency, you must notify Assistant Dean Lindsay Hoyt, as soon as possible, prior to the exam and be prepared to supply appropriate documentation.

11. Final grades will be available on WyoWeb. No grades will be given over the telephone.

Final Exam Reschedule Policy

No student is required to take exams in the following circumstances as long as they submit a reschedule form two weeks prior to the first day of exams:

- two exams on one day
- three exams in three consecutive days
- four exams in five consecutive days

Students who have six final exams cannot be provided relief due to the limited number of exam days. Efforts will be made, however, to distribute the six exams so as to avoid three in a row. A student who meets the above criteria must see Assistant Dean Lindsay Hoyt to reschedule. Exams are not normally rescheduled outside of the regular exam period.

Disability Assistance

The University of Wyoming College of Law is committed to making its programs accessible to individuals with disabilities and ensuring a robust academic experience for all students. The College of Law works closely with the Disability Support Services office on the University's main campus to coordinate a variety of services for students with disabilities. The Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 guarantee equal access to programs and services to those with disabilities. In order to be a qualified individual subject to the protections of these Acts, a person must demonstrate that he or she has a disability that substantially limits a major life activity (e.g., seeing, hearing, walking, breathing, performing manual tasks, learning, caring for oneself, and working) and, as such, requires a reasonable accommodation in order to have equal access. This section of the College of Law's policies explains a student's rights and responsibilities in seeking to receive accommodations from the College of Law because of a disability. The process and procedures outlined here apply to law school classroom accommodations, exam accommodations, and accommodations related to accessing the University's facilities.

- **Rights and Responsibilities in Requesting Reasonable Accommodations**
  - **Accommodation Request Deadlines**
    - The deadlines for students requesting accommodations is 2 weeks before the start of the academic year or semester for classroom and exam accomodations.
    - Extensions to these deadlines may be granted to students who were unable to meet the deadline due to extenuating circumstances. Accommodations are prospective; retroactive accomodations are not available. For this reason, it is important that the student timely submit requests for accommodations.

B. Accommodation Process and Procedure for Classroom and Exam Accomodations

1. A student who believes that he or she has a qualifying disability warranting accommodation for academic programs, exams or access to the University's facilities should submit their requests for accommodations through the University of Wyoming's Disability Support Services (DSS), by contacting udss@uwyo.edu or 307 766-3073 or applying through the website found here: https://www.uwyo.edu/udss/.

2. The DSS application process is required and separate from any communication with College of Law staff. Students *should not* go directly to any faculty in an effort to arrange accommodations for disabilities.

3. Once the student submits the completed application and supporting medical documentation, DSS will review the documentation to verify the existence of a qualifying and make a decision regarding the student's eligibility for services. DSS also may request additional documentation at any time or may request that the student's physician or other licensed health professional speak directly to the DSS staff.

4. Following the determination that the student has a qualified disability, DSS and the Assistant Dean of the College of Law, as the designated liaison for the College and its faculty, will consult together to make a determination regarding the student's requested accommodations related to the student's courses, exams, and access to university facilities.

5. A reasonable accommodation is an accommodation that does not impose an undue financial or administrative burden on the College of

Law and does not fundamentally alter the nature of the educational service, program, or activity at the College of Law.

6. DSS is responsible for making determinations about reasonable accommodations after consulting with the Assistant Dean of the College of Law and will then notify the student by email of the decision to deny, grant, or partially grant or provide a reasonable alternative to the requested accommodations. This email is required prior to any accommodations being made.

7. Information regarding a student's disability and any accommodations provided shall be disclosed only when necessary in furtherance of the student's education or to individuals who have a need to know the information as determined by the University. As a general rule, when feasible, student anonymity will be maintained.

8. For any exam condition accommodations, DSS will notify the Assistant Dean of the College of Law who will oversee the implementation of the accommodation. DSS will also notify any other law school staff designated by the Assistant Dean of the College of Law who are needed to implement the accommodation (e.g. the designated testing coordinator, faculty etc.). Students will be provided notice of the time and place of their accommodated testing by DSS.

9. For classroom accommodations, the Assistant Dean of the College of Law will oversee implementation of the accommodations and notify the faculty of the particular course if the accommodations provided affect the conduct of the class.

10. If a student is denied eligibility for DSS or requested reasonable accommodations, the student may request a review of these determinations by the Vice President for Student Affairs consistent with the process mentioned here https://www.uwyo.edu/udss/laws-and-complaint-processes/if-and-when-you-disagree.html Students who have questions about the review process may contact DSS for more information. The Vice President for Student Affairs may consult with the Dean of the College of Law prior to making a final determination.

II. Rights and Responsibilities of the Student after Receiving Classroom and Exam Accommodations

- A student must renew his or her request for accommodations each semester by meeting with DSS in order to determine whether new and different accommodations are necessary for the student's disability to be accommodated. Requests for classroom and exam accommodations must be made two weeks prior to the beginning of the semester. At these meetings, DSS may request that the student submit updated documentation verifying the nature and extent of the student's disability.
- If a student's condition changes at any time, thereby affecting the nature and extent of his or her disability, the student must notify the DSS immediately and DSS will consult with the Assistant Dean of the College of

Law, as the designated liaison for the College to engage in the interactive process set forth in section I(B)(4).

- If there is a problem with any accommodations that a student receives, whether it is related to a course, an exam, or access to a facility, the student must promptly notify DSS who will coordinate with the Assistant Dean of the College of Law so that steps may be taken, to the extent practicable, to resolve the problem.
- Communication via accommodations (including exam schedules and room assignments) will be made using the student's email account. A student is responsible for checking email on a timely basis to determine the status of any issue relating to the accommodation that has been put in place for a particular disability. If the student's disability prevents physical access to email, an alternative method of communication will be determined in consultation with DSS, the College of Law, and the student.

III. Requests for Accommodations Related to the College of Law Facilities

Any requests for disability accommodations related to the College of Law buildings or University grounds may be initiated by contacting DSS or the Assistant Dean of the College. DSS and/or the College of Law will work collaboratively regarding any requests and may involve other campus units, including but not limited to the UW Operations, in order to process and/or implement reasonable accommodations related to the College of Law facilities.

Credit Hours

In accordance with ABA Standard 310, one credit hour requires an amount of classroom or direct faculty instruction that is at least equivalent to fifty minutes per week for fifteen weeks (including one week for a final exam), as well as an amount of out-of-class student work that reasonably approximates two hours per week for fifteen weeks (including one week for a final exam). One credit hour for other academic activities, including simulation, field placement, clinical, co-curricular, and other academic work, requires at least an equivalent amount of work.

The College of Law faculty establishes and approves the number of credit hours awarded for each newly approved course. New course proposals must indicate both the in-class and out-of-class work that justifies the credit hours to be awarded. The curriculum committee will initially review existing courses to determine that classroom and out-of-class work meet the requirements for the awarded credit hours. The Associate Dean will thereafter periodically review course descriptions and syllabi to ensure that classroom and out-of-class work continue to meet the requirements for the awarded credit hours.

Bar Subjects

Wyoming has now adopted the Uniform Bar Exam, as has Colorado. Information about both bar exams can be found on the National Conference of Bar Examiners (NCBE) webpage (http://www.ncbex.org/).

DISCLAIMER: It is your responsibility to check with the Board of Law Examiners in each state in which you plan to take the bar exam for the latest information regarding bar examination subjects, application procedures, and deadlines, etc. We encourage students to begin the application process to take a bar exam well in advance. Some states provide reduced fees if students register within 15 months of entering law school.

Clinics & Practicums

For students matriculating in the fall 2016 semester and after, students are limited to a maximum of 9.0 credit hours of clinic credits. Clinic directors are allowed a maximum of 12.0 credit hours. Students will further be limited to a combined maximum of 12.0 credit hours total for clinic credits and externship credits. Clinic directors are limited to a combined maximum of 15.0 credits total for clinic credits and externship credits.

The College of Law offers six clinical programs and one practicum: Civil Legal Services; Defender Aid; Business Law Practicum; Estate Planning Practicum, Family Law; International Human Rights; and Prosecution Assistance. The clinical programs operate pursuant to Wyoming Supreme Court rules that permit third-year law students to practice law under the supervision of a COL professor or Wyoming Bar member. A student director is appointed for each program to help the faculty supervisor administer the program. (Wyoming Supreme Court, Rule 9)

The caseload of each clinic consists of actual cases and matters in Wyoming, the region, and even around the world. The Wyoming student practice rule allows student interns to make court appearances with the consent of the client. There is no simulation. The faculty supervisor is professionally responsible for the students in the program. Therefore, particular emphasis is placed on professional responsibility to the client, the profession, and the community. The response of the courts to students has been enthusiastic, both on and off the bench, and in trial and appellate courts.

Each clinical and practicum program is designed to expose students to a wide range of real experience in the practice of law. The programs are available during the academic year to third-year students and during the summer between the student's second and third years of law school. Third-year spring semester students who have not previously taken a clinic or practicum will receive a preference over those seeking a second semester in the clinic or practicum.

Students receive three credit hours per semester, are graded, and are generally required to devote a minimum of 150 hours to the program. Enrollment in the clinical programs may be limited in the interest of affording students maximum educational benefit. However, the College of Law will make sure that every interested student gains experience through a clinic, practicum, or other experiential opportunity.

Third Year Students Note: Clinic credit and externship credit may not be earned in the same semester, unless the student obtains permission from both the clinic faculty director and the externship faculty director, as well as the associate or assistant dean.

For more information on the clinic and practicum offerings, please see Legal Clinics at http://www.uwyo.edu/law/experiential/clinics/ and Estate Planning Practicum at http://www.uwyo.edu/law/experiential/practicums/.

Course Descriptions

You can find detailed course descriptions, which will be updated for each semester, on the law school website at COURSE DESCRIPTIONS (http://www.uwyo.edu/law/current/courses/courses.html). Click on the course name, and you will be able to view a detailed course description that will include information about the course, the instructor name, the semester offered, and the assessment method (e.g., exam, performance of skills, or paper).

Externships

For students matriculating in the fall 2016 semester and after, students are limited to a maximum of 6.0 credit hours of externship credits. Students will further be limited to a combined maximum of 12.0 credit hours total for clinic credits and externship credits. Clinic directors are limited to a combined maximum of 15.0 credits total for clinic credits and externship credits.

The externship program provides second and third year students with an opportunity to learn through practice by working directly with attorneys or judges for academic credit. Externship placements are limited to judges, government agencies and nonprofit organizations, and must be pre-approved by the externship faculty director. A student may also seek externship credit by volunteering for a judge, government agency or nonprofit group that fits the criteria for externship placement but is not currently on the pre-approved list. In that case, the supervising attorney or judge must submit a proposal to the externship faculty director, for approval on a case-by-case basis. This should be done well ahead of the time that the student begins work.

For two hours of credit a student is required to work 100 hours; for three hours of credit a student is required to work 150 hours. Students may apply for one unit of credit under limited circumstances and only with the prior approval of the externship faculty director. All externs must complete a writing component as part of the program requirements. The writing does not satisfy the advanced writing requirement. Grades are awarded S/U only. A student may earn a maximum of 3 hours of externship credit per semester; provided that a student may earn a maximum of 6 credits in a summer semester. Again, a student is limited to a total of 6 hours of credit for externships in their academic career. Externs must pay their own travel expenses. Students must register for summer externship credits in the summer session. If you are accepted for an externship, you will need to register for the appropriate number of credits for an externship course, LAW 6960. There will be an online component of the externship program.

Third Year Students Note: Externship credit and clinic credit may not be earned in the same semester, unless the student obtains permission from both the clinic faculty director and the externship faculty director, as well as the associate or assistant dean.

For a list of currently approved externship offerings and the externship application please see Legal Externships at http://www.uwyo.edu/law/experiential/legal-externships/index.html.

Joint Degree Programs

JD/MA in ENR Program

A joint Juris Doctor/Master of Arts of Environment and Natural Resources degree is available to all admitted law students upon application.The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Students in this joint degree program must take 18 credits outside the law school in ENR courses, and must take 12 law school credits from a menu of ENR-related law courses to qualify for this joint degree. Students in this joint degree program must be enrolled in a minimum of 9 hours of law course work in every fall and spring semester. Students in the joint degree program must also complete a supervised research project. Additionally, nine (9) credits of approved MA coursework (see Academic Regulations) will be applied to the Juris Doctor degree. Current core courses: ENR 5100, ENR 5900, ENR 5890, ENR 5750.

JD/MBA Program

A joint Juris Doctor/Master of Business Administration program is available in the College of Law and the College of Business. This program will take approximately four years to complete. Students spend three years on-campus engaged in law studies. Typically in their second year, students will be enrolled full-time in the MBA Program, taking required core business courses during the Fall, Spring, and Summer as well as participating in additional required program activities (orientation, Experiential Leadership Program, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development activities, etc.). The MBA Capstone course will be the final course completed in the summer term for a total of 36 MBA program credits. Nine (9) credit hours of approved coursework will be transferred as elective hours to the Juris Doctor degree. Students successfully completing this lock-step program will earn dual Juris Doctor and Masters of Business Administration degrees. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Current core courses: MBAM 5102, MBAM 5104, MBAM 5107, MBAM 5202, MBAM 5204, MBAM 5207, MBAM 5208, MBAM 5209, MBAM 5305, MBAM 5330.

JD/MPA Program

A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Students in this joint degree program must be enrolled in a minimum of 9 hours of law course work in every fall and spring semester. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty. In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in specified courses in the J.D. program. Current core courses: POLS 5000, POLS 5400, POLS 5410, POLS 5440, POLS 5684, POLS 5510, POLS

5690, POLS 5080, POLS 5060, POLS 5450, POLS 5460, POLS 5480.

Nonprofessional Degree Students

Graduate students from other colleges of the University of Wyoming may be permitted to take one or more elective law courses on an S/U basis for non-law credit when the following conditions are met: the law course taken is acceptable for their degree program and the prior written approval of the professor assigned to the course and the Associate Dean or Assistant Dean has been obtained. In order to obtain audit or visitor privileges, students must obtain prior written approval of the professor assigned to the course and the Associate Dean or Assistant Dean. Anyone that is not a matriculated law student cannot take the seat of a law student in any given law course and may be administratively dropped in order to make room for interested law students. For further information and requirements contact the Associate Dean of Academic Affairs, College of Law, Dept. 3035, 1000 E. University Ave., Laramie, WY 82071.

Course descriptions may be obtained online at www.uwyo.edu/law.

Graduate

Juris Doctor

The goal of the College of Law is to provide a sound and thorough education in the law that will prepare the student to practice law in accordance with the highest standards of professional competence and responsibility.

Curriculum

Overall Hours

For students matriculating in or after the fall 2013 semester, each student must successfully complete (grade of "D-" or better for courses taken at this school, grade of "C" or better for courses taken elsewhere) 90 credit hours (required for graduation) in accordance with the official curriculum as adopted by the College of Law faculty. At least 59 of these credits must be completed at the University of Wyoming College of Law.

The College of Law automatically approves up to 9 hours of any joint degree core courses with the corresponding prefix to their joint degree (i.e. MBAM, POLS, ENR) that meet the grade requirement, of a letter grade of B or better, to transfer in toward their law degree. If additional courses are needed outside of these respective prefixes, these will be approved on a case by case basis. Those students enrolled in a joint degree program may take up to 9 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree.

Law A-F hours

Regardless of the matriculation date, students must complete at least 76 credit hours through graded (A-F) courses.

Those students enrolled in a joint degree program may take up to 9 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students in a joint degree program who use 9 non-law credit hours toward their J.D. degree may reduce their required number of graded credits from 76 to 73 so that they can participate in other S/U offerings at the College of Law.

Required Courses: First (1L) Year Students

(Additional courses cannot be taken the first year without special permission from a dean).

Fall Semester

- LAW 6240 - Civil Procedure I Credits: 3
- LAW 6110 - Contract I Credits: 3
- LAW 6165 - Legal Research Credits: 1
- LAW 6160 - Legal Writing I Credits: 3
- LAW 6120 - Property I Credits: 3
- LAW 6130 - Torts I Credits: 4

Spring Semester

- LAW 6340 - Civil Procedure II Credits: 2
- LAW 6250 - Constitutional Law I Credits: 3
- LAW 6210 - Contracts II Credits: 2
- LAW 6140 - Criminal Law Credits: 3
- LAW 6260 - Legal Writing II Credits: 2
- LAW 6220 - Property II Credits: 2

Required Courses: Second (2L) Year Students

(offered once per year)

- LAW 6410 - Evidence Credits: 3
- LAW 6420 - Professional Responsibility Credits: 3

Experiential Hours

Each student must successfully complete no fewer than 6.0 credit hours in experiential learning courses:

- LAW 6166 - Interview, Counseling and Negotiation Credits: 3

- LAW 6560 - Business Planning Credits: 3
- LAW 6565 - Civil Pretrial Practice Credits: 3
- LAW 6670 - Estate Planning Credits: 2
- LAW 6850 - Trial Practice Credits: 3
- LAW 6930 - Legal Clinic Credits: 2-3
- LAW 6931 - Clinic: Civil Legal Services Credits: 3
- LAW 6932 - Clinic: Defender Aid Credits: 3
- LAW 6933 - Clinic: Energy, Environment and Natural Resources Credits: 3
- LAW 6934 - Clinic: Family and Child Advocacy Credits: 3
- LAW 6935 - Contract Drafting Credits: 3
- LAW 6936 - Clinic: Prosecution Assistance Credits: 3
- LAW 6937 - Estate Planning Practicum Credits: 3
- LAW 6960 - Legal Externships Credits: 1-3
- LAW 6925 - Advanced Persuasive Writing Credits: 3
- LAW 6992 - Advanced Oil and Gas Law Credits: 3

Advanced Writing

As a condition of graduation, all students must complete an upper-level writing requirement.

Elective Courses:

Second (2L) & Third (3L) Year Students (* subject to availability);

See Law Courses section

Juris Doctor/Master of Arts in Environment and Natural Resources

Students working toward the J.D./M.A. in ENR consult a Haub School advisor to design a program of study tailored to meet their educational goals.

Academic Regulations

A joint Juris Doctor/Master of Arts of Environment and Natural Resources degree is available to all admitted law students upon application. Students in this joint degree program must take 18 credits outside the law school in ENR courses, and must take 12 law school credits from a menu of ENR-related law courses to qualify for this joint degree. Students in the joint degree program must also complete a supervised research project. Additionally, nine (9) credits of approved MA coursework (see Academic Regulations) will be applied to the Juris Doctor degree. Current core courses: ENR 5100, ENR 5900, ENR 5890, ENR 5750.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

Environmental & Natural Resources, J.D./M.A.

Here is where you will find the requirements for the Environment & Natural Resources, J.D./M.A.

Juris Doctor/Master of Business Administration

The Juris Doctor/MBA program offered with the UW Colleges of Law and Business provides students with a high ROI. Optimize time and money spent by pursuing this dual program and tapping into quality education, networking, and career possibilities.

Academic Regulations

A dual Juris Doctor/Master of Business Administration program is available in the College of Law and the College of Business. This program will take approximately four years to complete. Students spend three years on-campus engaged in law studies. In their second year, students will be enrolled full-time in the MBA Program taking required core business courses during the Fall, Spring, and Summer as well as participating in additional required program activities (orientation, Experiential Leadership Program, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development activities, etc.). The MBA Capstone course will be the final course completed in the summer term for a total of up to 36 MBA program credits. Nine (9) credit hours of approved coursework will be transferred as elective hours to the Juris Doctor degree and up to six (6) credit hours of approved coursework will be transferred as elective hours to the MBA degree. Students successfully completing this dual program will earn dual Juris Doctor and Masters of Business Administration degrees.

Current Core Courses:

- MBAM 5101 - MBA Foundations Credits: 1
- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 - Executive Leadership II Credits: 1
- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

MBA

Here is where you will find informatin on the Business Administration, M.B.A.

Juris Doctor/Master of Public Administration

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics basedprogram where complicated issues of administrative decision making are the hallmarks of professional life.

Academic Regulations

A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty (see Academic Regulations). In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in specified courses in the J.D. program. For additional information regarding these joint degree programs, contact the College of Law or the joint program of interest.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

MPA/JD

Here you will find information on the Public Administration (MPA/JD)

English Language Center

Geospatial Information Science and Technology

Department of Agricultural and Applied Economics

206 Agriculture Building, (307) 766-2386
FAX: (307) 766-5544
Web site: www.uwyo.edu/agecon
E-mail: ag-econ@uwyo.edu
Department Head: Benjamin S. Rashford

Professors:

CHRISTOPHER T. BASTIAN, B.S. University of Wyoming 1987; M.S. 1990; Ph.D. Colorado State University 2004; Professor of Agricultural Economics 2017, 2005.

ROGER COUPAL, B.S. Utah State University 1978; M.S. University of Arizona 1985; Ph.D. Washington State University 1997; Professor of Agricultural Economics 2015, 1997.

DON MCLEOD, B.S. St. John's College 1982; M.S. Oregon State University 1987; Ph.D. 1994; Professor of Agricultural Economics 2015, 1995.

L. STEVEN SMUTKO, B.S. Colorado State University 1978; M.C.R.P. North Dakota State University 1982; Ph.D. Auburn 1995; Spicer Chair of Collaborative Practice, Professor of Agricultural Economics 2009.

Associate Professors:

KRISTIANA M. HANSEN, B.A. Reed College 1996; M.S. University of California, Davis 2003; Ph.D. 2008; Associate Professor of Agricultural Economics 2016, 2009.

VARDGES HOVHANNISYAN, B.S. Armenian State University of Economics 1999; M.S. Armenian State Agrarian University 2002; Ph.D. University of Wisconsin-Madison 2012; Associate Professor of Agricultural Economics 2021, 2015.

CHIAN A. JONES-RITTEN, B.S. Northern Arizona University 2003; M.A. Colorado State University 2007; Ph.D. 2011; Associate Professor of Agricultural Economics 2013.

BENJAMIN S. RASHFORD, B.S. University of Wyoming 1999; M.S. 2001; Ph.D. Oregon State University 2006; Associate Professor of Agricultural Economics 2012, 2006.

Assistant Professor:

ANDERS VAN SANDT, B.A. Linfield University 2012; Ph.D. Colorado State University 2018; Assistant Professor of Agricultural Economics 2020.

Academic Professionals:

BRIDGER M. FEUZ, B.S. University of Wyoming 1994; M.S. 1996; Senior Extension Educator 2012, 2004.

THOMAS FOULKE, B.A. University of Montana 1985; M.S. University of Wyoming 1992; Senior Research Scientist 2010, 1998.

LETICIA HENDERSON, B.S. New Mexico State University 2010; M.S. 2012; Assistant Lecturer 2019.

JOHN HEWLETT, B.S. Montana State University 1985; M.S. Oregon State University 1987; Senior Exension Educator 1987.

BRIAN LEE, B.S. University of Wyoming 2010; M.S. 2012; Research Scientist 2012.

AMY NAGLER, B.A. University of Wyoming 1996; M.S. 2002; Assistant Research Scientist 2016.

HANNAH WILSON, B.S. Southern Arkansas University 2021; M.S. University of Wyoming 2023.

ROBERT ZIEGLER, B.S. University of Wyoming 2018; M.S. University of Nebraska-Licoln 2020.

Temporary Lecturer:

Professors Emeritus:

Nicole Ballenger, Edward Bradley, Larry J. Held, James J. Jacobs, Dale Menkhaus, Carl Olson, Alan C. Schroeder, David T. Taylor, Glen D. Whipple

The Department of Agricultural and Applied Economics offers three concentrations within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three concentrations focus on the development of critical thinking, applied knowledge, and communication skills for students interested in

1. agricultural operations,

2. small rural businesses,

3. community economics,

4. financial institutions,

5. agricultural and natural resources development, and

6. other pursuits where applied economic tools will be useful.

A brief description of minimum course requirements for each of the three concentrations in agricultural business is given below. In addition, professional advisers will work with students to tailor a curriculum to individual interests and goals.

Agribusiness Management Concentration

This curriculum is for students preparing for careers in the agribusiness field. Applied agricultural economics courses are supplemented with marketing, management, finance and other courses from the College of Business and production-oriented courses from other departments in the College of Agriculture, Life Sciences, and Natural Resources.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13373

Farm and Ranch Management Concentration

This curriculum is for students intending to become operators or professional managers of farms, ranches, or feedlots. It is also well suited for students interested in the field of agricultural finance, or a minor in biological fields, such as agroecology or range management. In this concentration, courses in farm and ranch management, finance, and marketing are supplemented by courses in plant sciences, range management, veterinary sciences, and animal science.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13374

Livestock Business Management Concentration

This curriculum is for students intending to work in any sector of the livestock and meat industry, ranging from input suppliers, to ranches, feedlots, meat packing companies, marketing and sales agents, futures/commodities exchange groups, policy makers, and international trade organizations. In this option, courses in farm and ranch management, agricultural finance, and marketing are supplemented with courses in animal science, biology, range management, food science, and data analysis. Students may pursue a minor in Animal Science as part of this option.

Students will gain a broad understanding of both the business and science of the livestock industry.

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13773

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Minor Programs

The department also offers five minor programs. These five minors are to give students majoring in other undergraduate curricula in the university a concentration of work in any of the specialized undergraduate curricula offered by the department or in general agricultural economics. Each minor requires 27 hours in prescribed course work including 6 hours in supporting agriculture. Students need to plan their course work to meet course prerequisites.

Agricultural Business Minor. AGEC 1010, 1020, 4050 or MKT 3210, and 4060; ACCT 2010; 6 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

Farm and Ranch Management Minor. AGEC 1010, 1020, 2020 and 4640; 9 additional hours in upper-level agricultural economics courses; 6 hours in supporting agriculture courses.

International Agriculture Minor. AGEC 1010, 1020, 3860 and 4880; 6 additional hours in upper-level agricultural economics courses; 3 hours in foreign culture or language; 6 hours in supporting agriculture courses.

Natural Resource Economics Minor. AGEC 1020, 3750, 4700, 4720; choose 9 additional hours from: AGEC 4450, 4600, 4710, ECON 2400, 4400, 4410, 4520 (note: College of Business prerequisites), ENR 4500.

General Agricultural Economics Minor. AGEC 1010, 1020 and 15 additional hours in agricultural economics courses with 12 hours at the upper-level; 6 hours in supporting agriculture courses.

Graduate Study

The Department of Agricultural and Applied Economics offers graduate work leading to the Master of Science degree. Students may choose among major

options in the areas of agricultural and applied economics and agricultural business. The Plan A agricultural economics major emphasizes research with any of the following focus areas:

production economics and management, marketing and market analysis, resource and environmental economics, international agriculture, and economic and rural development.

The Plan B agricultural business option offers advanced skills to students who desire professional careers in the business sector. Students in the agricultural business option may concentrate their coursework and writing in management, marketing, or finance. Dual majors in water resources, and environment and natural resources are also offered.

Finally, the Department offers a graduate minor in applied economics. This program is for currently enrolled graduate students in other disciplines seeking a foundation in economics as well as their major discipline.

Program Specific Admission Requirements

Undergraduate major in agricultural economics or economics is not required.

Students may be required to complete program prerequisite courses, without graduate credit, that were not completed in their undergraduate education.

Specifically, students who have not completed at least one course in calculus, statistics, and intermediate microeconomic theory may be required to complete these courses without graduate credit during their first semester in residence.

Program Specific Degree Requirements

Master of Science in Agricultural Economics

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

AGEC 5310 Theory of Producer Behavior...3

AGEC 5630 Advanced Natural Resource Economics 3

AGEC 5710 Advanced Agricultural Market Theory 3

AGEC 5740 Theory of Consumer Behavior 3

Quantitative Methods

AGEC 5230 Intermediate Econometric Theory 3

AGEC 5320 Quantitative Methods in Agricultural Economics.....3

Research

AGEC 5650 Communicating Research.....3

AGEC 5880 Advanced Seminar.....1

Plan A (thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives. No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (non-thesis):

Minimum of 32 hours of coursework; Non-thesis business analysis paper accepted by the student's graduate committee. Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

AGEC 5310

AGEC 5740

AGEC 5880

AGEC 5630 or 5710

AGEC 5320 or 5230

In addition, students are required to complete 3 credit hours from each of the following three areas:

Management:

AGEC 4060, 4640 or 5460; or MGT 4410, 4420, 4440, 4470, or 4520

Marketing:

AGEC 4050, 4830, 4840, 4880, or 5710; or MKT 4240, 4430, 4520, or 4540

Finance:

AGEC 4500; or FIN 4510, 4520, 4610, 4810; or ECON 4740

Remaining credit hours will be filled with electives. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic. Presentation of the business analysis paper at a formal public seminar. An

internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Master of Science in Agricultural Economics/ Water Resources; Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 10 credit hours in water resources approved courses. Please refer to Water Resources Degree program in this Catalog for updated degree requirements. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the water resources area. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Master of Science in Agricultural Economics/Environment and Natural Resources (ENR); Plan A (thesis):

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser. Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements. The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources. Presentation of research results at a formal public seminar. Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Graduate Minor in Applied Economics:

Graduate standing. AGEC 4640, AGEC 5310 or 5740, AGEC 5320 or 5230, and 6 additional credits of approved courses. Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Major

Agricultural Business, Agribusiness Management Option, B.S.

Prepare for careers across agribusiness and business sectors. Agricultural economics is supplemented with business and agricultural science courses to prepare you for a wide range of careers in the agricultural supply chain.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative: 11 Hours

(Required for Major)

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Agricultural Economics: 33 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

- AGEC 4450 - Negotiation Credits: 3

OR

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3

OR

- AGEC 4840 - Agricultural Market Analysis Credits: 3

OR

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
  OR
- AGEC 4970 - Technical Communication for Agribusiness Credits: 3
- 3 hours of 3000-4000 level AGEC electives

Supporting Agriculture: 9 Hours

9 hours from any of the following: ANSC, FDSC, PLNT, SOIL, REWM, RNEW, ENTO, or BOT

Supporting Business: 18 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- 9 hours of 3000-4000 level business courses
- NOTE: Up to 6 hours of the 9 hours may be taken from MKT 2100, MGT 2100, or FIN 2100.

Total Hours: 120

Agricultural Business, B.S.

The Department of Agricultural and Applied Economics offers three options within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three options focus on the development of critical thinking, research, and communication skills for students interested in

- agricultural operations,
- small rural businesses
- community economics,
- financial institutions,
- agricultural and natural resources development, and
- other pursuits where applied economic tools will be useful.

The agricultural business curriculum is designed to enable our students to:

- communicate effectively economic, agricultural, business decision-making and natural resource concepts,
- fit into a business, agency, or academic environment and use economic concepts to quantify and analyze relevant issues, and
- be familiar with issues related to agriculture, natural resources, and rural communities.

Options

A brief description of minimum course requirements for each of the four options in agricultural business is given below. In addition, professional

advisers will work with students to tailor a curriculum to individual interests and goals.

- Agricultural Business, Agribusiness Management Option, B.S.
- Agricultural Business, Farm and Ranch Management Option, B.S.
- Agricultural Business, Livestock Business Management Option, B.S.

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Agricultural Business, Farm and Ranch Management Option, B.S.

Combine courses in farm and ranch management, finance and marketing with crop, range, veterinary and animal sciences to prepare for a career managing farms, ranches, or feedlots.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative : 11 Hours

(Required for Major)

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Science:

- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4

OR

- CHEM 1050 - Advanced General Chemistry I Credits: 4

Agricultural Economics: 34 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

- AGEC 4050 - Agribusiness Marketing Credits: 3

OR

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3

OR

- AGEC 4450 - Negotiation Credits: 3

OR

- AGEC 4840 - Agricultural Market Analysis Credits: 3

OR

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3

OR

- AGEC 4970 - Technical Communication for Agribusiness Credits: 3

- 3 hours 3000-4000 AGEC electives

Supporting Agriculture: 15 Hours

- 11 hours from any of the following: ASNC, FDSC, PLNT, SOIL, REWM, RNEW, ENTO, or BOT
- SOIL 2010 - Introduction to Soil Science Credits: 4

Supporting Business: 6 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Total Hours: 120

Agricultural Business, Livestock Business Management Option, B.S.

Build skills to work in any sector of the livestock and meat industry, from input suppliers to meat processing, by combining courses in farm and ranch management, finance and marketing, with animal, range and food science, biology, and data analysis.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative: 11 Hours

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR STAT 2070 - Statistics for Social The Social Sciences

Science (PN): 8 Hours

- CHEM 1000 - Introductory Chemistry Credits: 4
- LIFE 1010 - General Biology Credits: 4

Agricultural Economics: 37 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3

OR

- AGEC 4970 - Technical Communication for Agribusiness Credits: 3

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3

OR

- AGEC 4840 - Agricultural Market Analysis Credits: 3

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

OR

- AGEC 4280 - International Food and Farm Cultures Credits: 3

OR

- ECON 4740 - International Economics and Policy Credits: 3

- AGEC 4500 - Agricultural Finance Credits: 3

Biology of Livestock: 17 Hours

LIFE 2022 and LIFE 3050 are only required if pursuing a minor in Animal Science.

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3

Additional Biology of Livestock

For Animal Science minor: 20 Hours

Must earn a C or better in all courses to earn the minor.

- ANSC 2010 - Domestic Animal Metabolism Credits: 3
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- PATB 4110 - Diseases of Food Animals Credits: 3

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3

OR

- ANSC 4220 - Advanced Beef Production and Management Credits: 3

OR

- ANSC 4230 - Advanced Sheep Production & Management Credits: 3

OR

- ANSC 4240 - Advanced Swine Production and Management Credits: 3

For Non-minor: 17 Hours

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 2020 - Feeds and Feeding Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3

- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3

Supporting Business: 6 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Total: 120 Hours

Minor

Agricultural Business Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

- AGEC 4050 - Agribusiness Marketing Credits: 3

OR

- MKT 2100 - Introduction to Marketing Credits: 3

- AGEC 4060 - Agribusiness Management Credits: 3

- ACCT 2010 - Principles of Accounting I Credits: 3
- 6 additional hours in upper-level agricultural economics courses;
- 6 hours in supporting agriculture courses.

Applied Economics Minor

Graduate standing.

Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Courses Required

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

- AGEC 5310 - Theory of Producer Behavior Credits: 3

OR

- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3

- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

OR

- AGEC 5230 - Intermediate Econometric Theory Credits: 3

- 6 additional credits of approved courses.

Farm and Ranch Management Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3
- 9 additional hours in upper-level agricultural economics courses;
- 6 hours in supporting agriculture courses.

General Agricultural Economics Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- 15 additional hours in agricultural economics courses with 12 hours at the upper-level;
- 6 hours in supporting agriculture courses.

International Agricultural Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 3860 - World Food, Ag, & Development Credits: 3
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
- 6 additional hours in upper-level agricultural economics courses;
- 3 hours in foreign culture or language;
- 6 hours in supporting agriculture courses.

Natural Resource Economics Minor

Courses Required

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3

Choose 9 Additional Hours From:

- AGEC 4450 - Negotiation Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4520 - Public Economics Credits: 3 (note: College of Business prerequisites)
- ENR 4500 - Risk Analysis Credits: 4

Graduate

Agricultural Economics, M.S.

The M.S. in Agricultural and Applied Economics prepares graduates for careers in a diverse range of fields, including in business, government, research and education, and is also excellent preparation for continuing on to a PhD or law degree.

Students will take classes in the economic theory of consumer and producer decision-making, marketing, natural resource economics, linear programming, and econometrics in addition to elective field courses. Students also work closely with faculty to complete an in-depth

research project and write an MS thesis on a topic that meets their interests and career goals. Research and teaching assistantships, which cover the costs of tuition and fees, health insurance, and provide a monthly stipend, are also available to support completion of the MS degree.

Degree Requirements

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

- AGEC 5310 - Theory of Producer Behavior Credits: 3
- AGEC 5630 - Advanced Natural Resource Economics Credits: 3
- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3

Quantitative Methods

- AGEC 5230 - Intermediate Econometric Theory Credits: 3
- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

Research

- AGEC 5650 - Communicating Research Credits: 3
- AGEC 5880 - Advanced Seminar Credits: 1-2

Plan A (Thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives.

No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement.

Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements.

The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic.

Presentation of research results at a formal public seminar.

Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (Non-thesis):

Minimum of 32 hours of coursework;

Non-thesis business analysis paper accepted by the student's graduate committee.

Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

- AGEC 5310 - Theory of Producer Behavior Credits: 3
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3
- AGEC 5880 - Advanced Seminar Credits: 1-2

- AGEC 5630 - Advanced Natural Resource Economics Credits: 3

OR

- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3

- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

OR

- AGEC 5230 - Intermediate Econometric Theory Credits: 3

In Addition:

Students are required to complete 3 credit hours from each of the following three areas:

Management:

- AGEC 4060 - Agribusiness Management Credits: 3

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

Marketing:

- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
- AGEC 4840 - Agricultural Market Analysis Credits: 3

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

OR

- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3

OR

- MKT 4240 - Consumer Behavior Credits: 3

- MKT 4430 - Marketing Management Credits: 3

- MKT 4520 - Marketing Research and Analysis Credits: 3

OR

- MKT 4540 - International Marketing Credits: 3

Finance:

- AGEC 4500 - Agricultural Finance Credits: 3
  OR
- FIN 4510 - Bank Management Credits: 3

- FIN 4810 - Real Estate Investment Credits: 3
  OR
- ECON 4740 - International Economics and Policy Credits: 3

Remaining Credit Hours

Remaining credit hours will be filled with electives.

The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic.

Presentation of the business analysis paper at a formal public seminar.

An internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Agricultural Economics/Environment and Natural Resources, M.S.

Plan A (Thesis)

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser.

Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements.

The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources.

Presentation of research results at a formal public seminar.

Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Department of Animal Science

Animal Science/Molecular Biology Bldg., Rm 101
(307) 766-2224

FAX: (307) 766-2355
Web site: uwyo.edu/anisci
Department Head: Bledar Bisha

Professors:

BRENDA M. ALEXANDER, B.S. University of Wyoming 1986; M.S. 1988; Ph.D. 1999; Professor of Animal Science 2019, 2006.

SCOTT L. LAKE, B.S. University of Nevada 1998; M.S. 2001; Ph.D. University of Wyoming 2005; Professor of Animal Science 2021, 2014, 2008. Extension Livestock Specialist. Director of Laramie R&E Center.

JAMES K. PRU, B.S. 1991 and M.S. 1993 Zoology and Physiology, University of Wyoming; Ph.D. Molecular Reproductive Biology University of Wyoming 2000; Professor and Rochelle Chair of Animal Science 2021.

BARBARA RASCO, B.S.E. University of Pennsylvania 1979; Ph.D. Food Science, University of Massachusets 1983; J.D. Seattle University 1995; Dean, College of Agriculture, Life Sciences and Natural Resources, 2019-2023.

Associate Professors:

BLEDAR BISHA, D.V.M. Agricultural University of Tirana-Albania 1999; M.S. Iowa State University 2004; Ph.D. 2009; Associate Professor of Animal Science 2019, 2013.

PAUL A. LUDDEN, B.S. University of Nebraska-Lincoln 1991; M.S. Purdue University 1994; Ph.D. University of Missouri-Columbia 1997; Associate Professor of Animal Science 2004, 1998.

STEVEN I. PAISLEY, B.S. University of Wyoming 1993; M.S. 1995; Ph.D. Oklahoma State University 1998; Extension Beef Cattle Specialist; Associate Professor of Animal Science 2007, 2001. Director of SAREC R&E Center.

WHIT STEWART, B.S. Brigham Young University-Idaho 2008; M.S. Oregon State University 2010; Ph.D. New Mexico State University 2015; Assistant Professor of Animal Science 2017.

Assistant Professors:

JEREMY BLOCK, B.S. University of Missouri 1998; M.S. University of Florida 2003; Ph.D. 2007; Assistant Professor of Animal Science 2020.

HANNAH C. CUNNINGHAM-HOLLINGER, B.A. St. Olaf College 2012; M.S. University of Wyoming 2014; Ph.D. 2018; Assistant Professor of Animal Science 2019.

DANA K. DITTOE, B.S. Mississippi State University 2016; M.S. 2017; Ph.D. University of Arkansas 2020. Assistant Professor 2023

CODY GIFFORD, B.S. 2013, M.S. 2016; Ph.D. Colorado State University 2019; Assistant Professor of Animal Science 2019.

PAULO M.T. LIMA, B. S. 2011 Veterinary Medicine, University of Brasília (Brazil); M. S. 2013 Animal Sciences, University of Brasília (Brazil); Ph.D. 2016 Sciences, Center for Nuclear Energy in Agriculture - University of São Paulo (Brazil); Assistant Professor Animal Science/Precision Livestock Specialist 2023, University of Wyoming.

BRANDON L. ROBERTS, B.S. 2009 and Ph.D. 2015 Neuroscience, Washington State University; Assistant Professor in Dept. of Zoology & Physiology and Dept. of Animal Science 2023.

SHELBY ROSASCO, B.S. California State University 2012; M.S. New Mexico State University 2016; Ph.D. New Mexico State University 2020; Assistant Professor of Animal Science 2020.

Academic Professional Lecturers:

LANDON K. ELDRIDGE, B.S. 2019 and M.S. 2023 Animal Science, Texas A&M University.

JENNIFER A. INGWERSON-NIEMANN, B.S. University of Nebraska-Lincoln 2005; M.S. Iowa State University 2014; Academic Professional Lecturer in Animal Science 2014.

McKENSIE K. PHILLIPS, B.S. University of Wyoming 2015; M.S. Texas A&M University 2017; Assistant Lecturer in Animal Science 2018.

Adjunct Professors:

Kristi Cammack, Jeff Chandler, Thomas Hansen, John Johnston, Tom McDonald, Peter Nathanielsz, Mark Nijland, Heywood Sawyer, Donal Skinner, D. Paul Thomas, Meijun Zhu

Professors Emeriti:

Ray Field, Bret Hess, Frank Hinds, Doug Hixon, Steven W. Horn, Conrad Kercher, Warrie Means, Richard J. McCormick, Gary Moss, William Murdoch, Johannes Nel, Bibek Ray, Dan Rule

Introduction

The Department of Animal Science offers a variety of courses in animal and food science. The department uses modern laboratories and excellent animal facilities including a livestock teaching arena and a meat processing facility.

The Department of Animal Science and the Department of Veterinary Science have a combined curriculum, under Animal and Veterinary Science (ANVS).

The curriculum has options in production, range livestock, business, communication, animal biology, preveterinary medicine, meat science and food technology, and equine science. The curriculum leads to a wide variety of career opportunities for animal and veterinary science graduates.

B.S. in Animal and Veterinary Science

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the bachelor of science degree in animal and veterinary science. Courses in animal science, food science, and pathobiology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various concentrations provide maximum flexibility to meet the changing needs of students and their employers.

Our concentrations allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal Biosciences Concentration

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

Equine Science Concentration

This concentration is designed to provide a strong foundation in animal and equine science and its

application to equine production and management for those interested in a career in the horse industry.

Food Animal industries Concentration

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

Pre-Veterinary Medicine Concentration

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

Undergraduate Minors

The Departments of Animal Science and Veterinary Sciences offers two minors:

- Animal and Veterinary Science Minor
- Equine Science Minor

Graduate Study

Masters Program

The Departments of Animal Science and Veterinary Science offer programs leading to the M.S. (Plan A and Plan B) and Ph.D. degrees in animal and veterinary science. A M.S. degree in food science and human nutrition is offered in cooperation with the Department of Family and Consumer Sciences. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. The Department of Animal Science also participates in the interdisciplinary M.S./Ph.D. Biomedical Science Program.

Food Science

Food science is the application of basic sciences to the processing, quality control, storage, distribution and consumer use of food products. The microbiological, chemical and physical characteristics of foods as related to

food processing and product quality are studied. Major emphasis is placed in the area of animal food products.

Doctoral Program

The program requires 72 hours. Students must follow minimum graduate requirements.

Major

Animal and Veterinary Science, B.S.

The Depts of Animal Science and Veterinary Sciences jointly offer the B.S. degree in Animal and Veterinary Science. Courses in animal science, food science, and pathobiology form four concentrations tailored to the student's interests/career goals.

Concentrations

- Animal and Veterinary Science, B.S. (Animal Biosciences Concentration)
- Animal and Veterinary Science, B.S. (Equine Science Concentration)
- Animal and Veterinary Science, B.S. (Food Animal Industries Concentration)
- Animal and Veterinary Science, B.S. (Pre-Veterinary Medicine Concentration)

Additional Information

Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine or graduate school, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

A grade of C or better must be earned in the following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, ANSC 3100, ANSC 4120, ANSC 4540, ANSC 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, LIFE 2022.

Students are encouraged to participate in activities related to their degree option. The university has competitive livestock, horse, wool, and meat judging teams that travel to and participate in at least one major exposition a

year. Laboratories and field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Pre-vet Club, Wyoming Collegiate Cattlemens Association, Microbiology Club, Range Club, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal and Veterinary Science, B.S. (Animal Biosciences Concentration)

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4

- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Animal Biosciences Concentration

Students declaring the Animal Biosciences concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 2220 - Pathogenic Microbiology Credits: 3
- PATB 4300 - Microscopic Anatomy Credits: 3

Choose any 1 from the following:

- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Supporting Agriculture/Math/Science

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4 **OR** (CHEM 2420 - Organic Chemistry I Credits: 4 **AND** CHEM 2440 - Organic Chemistry II Credits: 4)
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4 **OR** MICR 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PHYS 1050 - Concepts of Physics Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3

Electives

This program requires at least 19 credits of approved electives.

Animal and Veterinary Science, B.S. (Equine Science Concentration)

This concentration is designed to provide a strong foundation in animal and equine science and its application to equine production and management for those interested in a career in the horse industry.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4

- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Equine Science Concentration

Students declaring the Equine Science concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 1030 - Equine Management Credits: 3
- ANSC 2000 - Equine Industry Career Preparation Credits:
- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 3250 - Equine Behavior and Welfare Credits: 3
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4

Supporting Agriculture/Math/Science

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- ANSC 2010 - Domestic Animal Metabolism Credits: 3 **OR** CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3

Electives

This program requires at least 23 additional credits of approved elective courses.

Animal and Veterinary Science, B.S. (Food Animal Industries Concentration)

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

21 Required Credits:

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

15 Required Credits:

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Food Animal Industries Concentration

Students declaring the Food Animal Industries concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 2070 - Livestock Behavior and Handling Credits: 2
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4

Supporting Agriculture/Math/Science

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- ANSC 2010 - Domestic Animal Metabolism Credits: 3 **OR** CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3 **OR** REWM 2000 - Principles of Rangeland Management

Electives

a minimum of 26 credits of free electives are required to complete this program.

Animal and Veterinary Science, B.S. (Pre-Veterinary Medicine Concentration)

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional

opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Science Core - Pre-vet

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3

OR PATB 4130 - Mammalian Pathobiology Credits: 3

- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Pre-Veterinary Medicine Concentration

Required Courses

Students declaring the Pre-Veterinary Medicine concentration are required to take the following courses:

- MICR 2021 - General Microbiology Credits: 4 **OR** MOLB 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PATB 2220 - Pathogenic Microbiology Credits: 3

Pathobiology

Minimum of 6 Credits from the following:

- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4300 - Microscopic Anatomy Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4
- PATB 4710 - Medical Virology Credits: 3

Animal Science

Minimum of 3 Credits from the following:

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 4050 - Animal Growth and Development Credits: 3
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3

Supporting Math/Science/Chem

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4 **OR** MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

- STAT 4015 - Regression Analysis Credits: 3 **OR** STAT 4025 - Design and Analysis of Experiments I Credits: 3

Electives

At least 9 hours of approved electives are required for this program.

Minor

Animal and Veterinary Science, Animal and Veterinary Science Minor

This minor provides a foundational background in animal and veterinary science for students interested in livestock and equine production, but with a primary degree program outside of ANVS.

Courses Required:

- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

At Least One of the Following:

- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Animal and Veterinary Science, Equine Science Minor

This minor provides a foundational background in equine science and its application to equine production and management for students interested in the horse industry, but with a primary degree program outside of Equine Science.

Core Courses

12 total credit hours

- ANSC 1030 - Equine Management Credits: 3
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 3250 - Equine Behavior and Welfare Credits: 3
- ANSC 4111 - Equine Health and Disease Credits: 3

OR

- PATB 4111 - Equine Health and Disease Credits: 3

Electives

Must choose 3 courses minimum (minimum of 8 credits) - 8 to 10 total credit hours

*Maximum of 3 credits allowed in ANSC 3560

- ANSC 3555 - Equine Evaluation and Selection Credits: 3
- ANSC 3560 - Advanced Equine Evaluation and Selection Credits: 1-2 *
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Graduate

Animal and Veterinary Science, M.S.

Both Plan A (Thesis) and Plan B (Non-thesis) options are available.

Plan A (Thesis)

The student, major professor, and graduate committee determine the program of study and research project, which meets the needs of the individual student. The candidate's graduate committee should be established and functioning by the time the student has completed 12 semester hours of formal coursework. The master of science program should be approved and filed by the end of the student's second semester of graduate study in animal science. This committee shall also determine if the student is making satisfactory progress to be advanced to a candidate for a master's degree or continued in a doctoral program by the end of the student's third semester following matriculation.

The student can specialize in breeding, food science and human nutrition, nutrition, physiology, meat science, reproduction or wool for coursework and thesis/dissertation project. In addition, supporting coursework is available in agricultural economics, biochemistry, microbiology, range management, genetics, statistics, and other areas of interest to the individual. In certain cases it is possible to develop a joint research project between animal science and another department.

Students may use the research facilities and herds of beef cattle, sheep, and swine at the university livestock center near the university or at one of the university research and extension centers in the state. Research laboratories are located on campus and include a modern meat processing facility.

The Thesis program is a 30 hour program, 26 hours of coursework and 4 hours of thesis research.

Plan B (Non-thesis)

The Non-thesis program requires a coursework-intensive, non-thesis master of science program for those students whose career paths may not require a thesis research program.

The program requires 32 hours of coursework in addition to an acceptable non-thesis research paper as defined by the student's graduate committee.

Options

Program Specific Degree Requirements

A minimum of 30 credit hours including 4 thesis hours must be earned in 4000-5999 level courses.

The program of study is arranged with the student's graduate committee.

Animal and Veterinary Science, Ph.D.

A 72 hour program.

Students must meet the university minimum requirements.

Department of Botany

114 Aven Nelson Building, (307) 766-2380
FAX: (307) 766-2851

Website: www.uwyo.edu/botany

Department Head: Brent E. Ewers

Professors:

ELLEN D. CURRANO, B.Sc. (Hons.) University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Botany 2022, 2014.

BRENT E. EWERS, B.S. Colorado State University 1995; M.S. Duke University 1997; Ph.D. 1999; Professor of Botany 2014, 2002.

DANIEL C. LAUGHLIN, B.S. Calvin College 1999; M.S. Pennsylvania State University 2002; Ph.D. Northern Arizona University 2009; Professor of Botany 2022, 2017.

STEVEN L. MILLER, B.S. University of Wyoming 1979; M.S. Virginia Polytechnic Institute and State University 1982; Ph.D. 1985; Professor of Botany 2002, 1990.

CAMELLIA OKPODU, B.S. North Carolina State University 1987; Ph.D. North Carolina State University 1994; Professor of Botany 2021.

DAVID TANK, B.S. (Hons.) Michigan State University 1998; M.S. Michigan State University 2000; Ph.D. University of Washington 2006; Professor of Botany 2021.

CYNTHIA WEINIG, B.A. (Hons.) Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

DAVID WILLIAMS, B.A. The University of Texas, Austin 1985; M.S. Texas A&M University 1988; Ph.D. Washington State University 1992; Professor of Botany 2009, 2003.

Associate Professors:

CATHERINE E. WAGNER, B.A. (Hons.) Whitman College 2004; Ph.D. Cornell University 2011; Assistant Professor of Botany 2015.

Assistant Professors:

LAUREN SHOEMAKER, B.A. (Hons.) Colorado College 2011; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

CHRISTOPHER WEISS-LEHMAN, B.A. Earlham College 2010; Ph.D. University of Colorado Boulder 2017; Assistant Professor of Botany 2019.

Senior Lecturer:

MARK E. LYFORD, B.A. St. Olaf College 1993; M.S. University of Wyoming 1995; Ph.D. 2001; Senior Lecturer in Botany 2014, 2005.

Associate Instructional Professor:

CHRISTOPHER NORTH, B.S. Virginia Polytechnic Institute and State University 2002; M.S. Eastern Illinois University 2005; Ph.D. University of Wyoming 2017; Associate Instructional Professor in Botany 2022, 2014.

Assistant Instructional Professor:

JAMIE CRAIT, B.Sc. Oregon State University 1999; M.S. University of Wyoming 2005; Ph.D. 2013; Assistant Lecturer in Botany 2018.

Senior Research Scientist:

BURRELL E. NELSON, B.A. Andrews University 1971; M.A. University of Wyoming 1974; Senior Research Scientist.

Research Scientist:

BEN LEGLER, B.S. University of Washington 2001; M.S. University of Wyoming 2010; Research Scientist 2021.

Professors Emeriti:

Dennis H. Knight, Stephen T. Jackson, William A. Reiners

Associate Professors Emeriti:

Daniel B. Tinker

Botany

Botany is the study of plants and their relationship to human affairs. The science is fundamental to food, fiber and pharmaceutical production; to the management of landscapes for beauty, recreation, forest products and forage; and to the protection of landscapes against pollution and other abuses. The botanist is concerned with the diversity and classification of plants and fungi, their structure at both the macroscopic and microscopic levels, and their physiology, ecology and genetics and evolutionary relationships.

Courses in botany have been developed to meet the needs of the following groups of students: those who desire a general knowledge of the subject for its cultural value, those specializing in areas which require a background in plant biology, and those selecting botany or biology as a major.

Undergraduate Degrees:

Students can choose from two undergraduate degree majors: the Botany B.S. and Biology B.S. programs. The Biology B.S. program includes an optional Concentration in Ecology and Evolution. The Biology B.S. degree program also maintains a concurrent major offered through the College of Education whereby students fulfill all the major requirements for Biology on top of their requirements for the B.S. degree in Secondary Science Education with a major in Biological Sciences Education.

Undergraduate Minors:

Minors in Biology and Botany are offered.

Graduate Study:

The Department of Botany offers graduate programs leading to the master of science and the doctor of philosophy degrees in botany.

Program Specific Admission Requirements (Graduate Study)

A minimum GPA of 3.000 on previous coursework is required.

Program Specific Degree Requirements (Graduate Study)

Regardless of field of specialization, all candidates will be held responsible for basic information in the following areas: genetics, physiology, morphology, and evolutionary and environmental botany. A knowledge of chemistry (including organic and elementary biochemistry), physics, calculus, and statistics may be required.

A minimum GPA of 3.000 must be maintained. Any course in which a C (or below) or U is obtained cannot be counted toward the degree requirement.

Participation in seminars will be required of all candidates during their residence at the University of Wyoming.

Major

Biology, B.S.

The Bachelor of Science degree in Biology is designed to provide a thorough foundation in biology as well as other supporting areas of physical and life sciences and mathematics while providing flexibility and student choice.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Information

The biology major is designed for students interested in obtaining a broad education in biological sciences. It enables students to combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the major. On completion of the core requirements for the major, specific courses selected to complete the major may vary according to students' interests and are worked out by consultations between student and

adviser. The requirements for a Bachelor of Science degree in biology are as follows:

A grade of C or better is required in all major classes.

The degree program is administered by the Department of Botany.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Course Requirements

Lower Division Courses: 42 Hours

- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4

  OR
- CHEM 1000 - Introductory Chemistry Credits: 4

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4

  OR
- STAT 2050 - Fundamentals of Statistics Credits: 4

Foundational Biology

Choose two from the following:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MICR 2021 - General Microbiology Credits: 4 - *MOLB2021 also fulfills this course requirement*

Data Science Course: 3 Hours

Choose one from the following:

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3

Upper Division Courses: 18 Hours

- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

Biology, Ecology and Evolution Concentration, B.S.

Students will receive the academic training to become environmental consultants and educators, ecologists and natural resource managers, conservation scientists, and research technicians in academic or government agencies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations

and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

The Department of Botany offers the Ecology and Evolution Concentration for Biology majors. This concentration will prepare students for a career or further graduate study. In addition to core concepts and theories, this concentration will teach students important skills that are required in the workforce, including organism identification, quantitative reasoning, data analysis, and scientific communication. Students also will have opportunities to participate in faculty research projects, which will train them for graduate research, careers in scientific discovery, or any endeavor where critical thinking and problem solving are essential components of the vocation.

To fulfill the requirements of the concentration, students will select five courses that meet a minimum of 15 credit hours in addition to what is required for the Biology Major. These will be selected from a variety of upper-division (3000-4000) courses that satisfy their individual interests (listed below).

Students must select:

- one course in organismal biology (A),
- one course in ecology (B),
- one course in evolution (C),
- any one additional course from these three categories,
- and one fourth-year capstone course (D).

Students who concentrate in Ecology and Evolution should plan to take LIFE3500 - Evolutionary Biology in their third year to be able to take an additional evolution course before graduating. All courses listed below will count toward this concentration. However, there are many other excellent courses offered across campus that are relevant to this concentration. Students can obtain approval to take other courses that are not included on the list below to satisfy the requirements of the concentration.

List of Potential Courses

A. Organismal Biology

- BOT 3600 - Plant Diversity and Systematics Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- BOT 4360 - Mushrooms of the Rocky Mountains Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4
- ZOO 4540 - Invertebrate Zoology Credits: 4
- BOT 4395 - Symbiosis of Forest Ecosystems Credits: 3

B. Ecology

- BOT 4700 - Vegetation Ecology Credits: 4
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4650 - Tropical Field Ecology Ecuador Credits: 4

- BOT 4280 - Paleobotany Credits: 4

  OR
- GEOL 4280 - Paleobotany Credits: 4

- BOT 4780 - Biogeochemistry Credits: 3
- BOT 4235 - Marine Biology Credits: 3
- BOT 4200 - Plant-Microbe Interactions Credits: 3

C. Evolution

- BOT 4790 - Special Topics in Ecology Credits: 1-3 (Macroevolution)
- BOT 4790 - Special Topics in Ecology Credits: 3 (Evolution of development)
- BOT 4790 - Special Topics in Ecology Credits: 3 (Evolution seminar)

- BOT 5060 - Fundamental Concepts in Evolution Credits: 3

  OR
- ZOO 5060 - Fundamental Concepts in Evolution Credits: 3

D. Senior Capstone Course

- BOT 4444 - Biology Capstone Credits: 3

  OR
- BOT 4965 - Undergraduate Research in Botany Credits: 1-10

Botany, B.S.

The Bachelor of Science degree in Botany is designed to provide a thorough foundation in botany as well as other supporting areas of physical and life sciences and mathematics.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Lower Division Courses: 41-42 Hours

Students take introductory courses in biology, chemistry, physics, and mathematics. These courses provide the foundation for more advanced work in upper division biology courses and contribute to a more comprehensive understanding of biological processes.

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

  OR
- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4

- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3

  OR
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Upper Division Courses: 40-42 Hours

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- BOT 3600 - Plant Diversity and Systematics Credits: 4

- LIFE 3400 - General Ecology Credits: 3
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- LIFE 3050 - Genetics Credits: 4
- LIFE 3500 - Evolutionary Biology Credits: 3
- BOT 4280 - Paleobotany Credits: 4

  OR
- BOT 4200 - Plant-Microbe Interactions Credits: 3

- BOT 4780 - Biogeochemistry Credits: 3
- BOT 4775 - Forest Ecology Credits: 4
- BOT 4550 - Computational Biology Credits: 4

  OR
- BOT 5600 - Ecological Modeling Credits: 3

- BOT 4700 - Vegetation Ecology Credits: 4
- BOT 4444 - Biology Capstone Credits: 3

  OR
- BOT 4965 - Undergraduate Research in Botany Credits: 1-10

BOT Elective Requirement: 4 Hours

Choose 4 credit hours from the following:

- BOT 3000-BOT 5999

Minor

Biology, Minor

Students may combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the minor.

Additional Information

Students who are majoring in Biology may not declare a Minor in Biology. Elective credit hours used toward the Biology Minor must be in courses not being counted towards a student's major. A grade of "C" or better is required in all courses. At least 25% of credit hours for the Biology Minor must be earned in upper division courses.

Credit in other courses with different prefixes in the biological sciences area may be applied to the minor in Biology at the discretion of a student's minor advisor.

Required Courses: 12 Hours

- LIFE 1010 - General Biology Credits: 4

Choose two from the following:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MICR 2021 - General Microbiology Credits: 4 - *MOLB2021 also fulfills this course requirement*

Elective Courses: 9-12 Hours

Select one different course from each of three of the following subject areas.

Molecular/Genetics/Cell Biology:

- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3

Morphology/Physiology:

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- BOT 4395 - Symbiosis of Forest Ecosystems Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4

Evolution:

- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- BOT 4280 - Paleobotany Credits: 4

Ecology:

- BOT 4280 - Paleobotany Credits: 4
- BOT 4700 - Vegetation Ecology Credits: 4
- BOT 4730 - Plant Physiological Ecology Credits: 4
- BOT 4745 - Terrestrial Ecosystem Ecology Credits: 3
- BOT 4775 - Forest Ecology Credits: 4
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Botany, Minor

The Botany minor provides foundational coursework in botany as well as other supporting areas of physical and life sciences and mathematics.

Required Courses Credits: 11-12 Hours

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4

- BOT 4640 - Flora of the Rocky Mountains Credits: 3
  OR
- BOT 4680 - Taxonomy of Vascular Plants Credits: 4

- BOT 4700 - Vegetation Ecology Credits: 4
  OR
- BOT 4775 - Forest Ecology Credits: 4

Upper Division BOT Elective Requirement: 7 Hours

Choose 7 credit hours (minimum) from the following:

- BOT 3000-BOT 5999

Graduate

Botany, M.S.

Requirements for this degree are 26 semester hours of courses approved by the student's committee plus 4 hours of BOT5960 - Thesis Research.

Botany, Ph.D.

In addition to the minimum requirements set forth in this Catalog, the Department of Botany may require that a student demonstrate skills in two peripheral areas. This decision is made for individual cases by the major professor and graduate committee. These could include foreign languages, statistics, or computer science. In some cases, additional skills may be required.

Department of Ecosystem Science and Management

2013 Agriculture Building
(307) 766-2263
FAX: (307) 766-6403
Website: uwyo.edu/esm
Department Head: Timothy R. Collier

Professors:

JEFFREY L. BECK, B.S. Brigham Young University 1993; M.S. 1996; Ph.D. University of Idaho 2003; Professor of Rangeland Ecology and Watershed Management 2018, 2007.

THIJS KELLENERS, B.S. Wageningen University, The Netherlands 1988; M.S. 1993; Ph.D. 2001. Professor of Soil Science 2018, 2012.

SCOTT N. MILLER, B.S. Brown University 1991; M.S. University of Arizona 1995; Ph.D. 2002; Professor of Rangeland Ecology and Watershed Management 2017, 2002.

MELANIE MURPHY, B.S. University of Idaho 1998; M.S. 2001; Ph.D. Washington State University 2008; Professor of Rangeland Ecology and Watershed Management 2023, 2010.

VIRGINIA B. PAIGE, B.A. Colorado College 1984; M.S. University of Massachusetts 1992; Ph.D. University of Arizona 2000; Professor of Rangeland Ecology and Watershed Management 2019, 2004.

SCOTT R. SHAW, B.S. Michigan State University 1977; M.S. University of Maryland 1981; Ph.D. 1984; Professor of Entomology 1998, 1989.

Associate Professors:

DAVID CHRISTIANSON, B.S. Montana State University 2003; Ph.D. 2008; Associate Professor of Rangeland Ecology and Watershed Management 2021, 2019.

TIMOTHY R. COLLIER, B.S. University of California-Riverside 1987; Ph.D. University of California-Santa Barbara 1994; Associate Professor of Entomology 2008, 2002.

KRISTINA HUFFORD, B.A. University of California-Berkeley 1993; Ph.D. University of Georgia 2001; Associate Professor of Rangeland Ecology and Watershed Management 2017, 2010.

FABIAN NIPPGEN, M.S. Albert-Ludwigs University 2007; Ph.D. Montana State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2023, 2017.

J. DEREK SCASTA, B.S Texas A&M University 2004; M.S. 2008; Ph.D. Oklahoma State University 2014; Associate Professor of Rangeland Ecology and Watershed Management 2020, 2014.

LINDA VAN DIEPEN, B.S. Hogeschool IJselland, Deventer 1999; M.S. Wageningen University 2002; Ph.D. Michigan Technological University 2008; Associate Professor of Soil Microbiology 2021, 2015.

KAREN L. VAUGHAN, B.S. University of Delaware-Newark 2001; M.S. University of Maryland-College Park 2004; Ph.D. University of Idaho-Moscow 2008; Associate Professor of Pedology 2021, 2015.

Assistant Professors:

TUCKER FURNISS, B.S. University of Washington 2011; M.S. Utah State University 2016; Ph.D. 2021; Assistant Professor of Rangeland Ecology and Watershed Management 2023.

Lecturers:

BRIAN SEBADE, B.S. University of Wyoming 2008; M.S. 2010**;** Assistant Lecturer in Rangeland Ecology and Watershed Management 2023.

Academic Professionals:

SCOTT SCHELL, B.S. University of Wyoming 1991; M.S. 1994; Senior Extension Entomologist 2005, Associate Research Scientist 2009.

Adjunct Professors:

Justin Derner, Brenda Schladweiler, Gerald Schuman, Ramesh Sivanpillai, Kevin Wilcox

Professors Emeriti:

Ann Hild, Alexandre Latchininsky, David Legg, Larry Munn, Richard Olson, Katta Reddy, J. Daniel Rodgers, Quentin Skinner, Michael Smith, Peter Stahl, John A. Tanaka, George Vance, James Waggoner, James Wangberg, Thomas Wesche, Stephen Williams

Undergraduate Study

The Department of Ecosystem Science and Management offers a Bachelor of Science degree in Rangeland Ecology and Watershed Management. This degree can also be obtained as an affiliate degree in conjunction with the School of Environment and Natural Resources. Five minor degree programs are offered through the department: Forest Resources, Insect Biology, Rangeland Ecology and Watershed Management, Reclamation and Restoration Ecology, and Soil Science. Obtaining a minor to complement a B.S. major degree program provides credentials and knowledge that can expand career opportunities.

The degree programs reflect the department's diverse expertise in natural resource management and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/ integrated pest management, soil

science and various types of environmental consulting) or other science careers.

Student Learning Outcomes

The goal of the Department of Ecosystem Science and Management is to provide students with comprehensive knowledge in several different areas in addition to their specific area of study. These expectations ensure that students may take these learned skills and successfully apply them in their post-graduate endeavors. Assessments in all areas are based on knowledge, skills, and attitude.

These areas include:

> Oral communication encompasses all the abilities necessary for effective expression and sharing of information, ideas, and feelings in a format including verbal and nonverbal symbols.
>
> Proficiency in written communication will ensure that students will be able to write for different audiences, from expressive writing to technical writing, using a range of sophistication in language.
>
> Professional behavior involves attaining high standards of behavior and appropriate attitudes, not only through acquiring knowledge and experience but a lifelong commitment to learning and achievement.
>
> Competency in critical thinking and problem-solving enables students to engage in reasonable, reflective thinking focused on deciding what to believe or do.
>
> Computer and information literacy ensures that students will be viewed as trainable and adaptable in a computerized work environment. Proficiency in this area also enables students to effectively access online information, and skillfully make use of it.

Knowledge of student skills in these different areas will aid the department in:

> Planning instructional strategies to address student strengths and weaknesses;
> Evaluating and describing overall student achievement;
> Counseling students for academic and career options; and
> Evaluating the effectiveness of instructional programs.

Graduate Study

The Department of Ecosystem Science and Management is an interdisciplinary department made up of five disciplines: entomology, rangeland ecology, soil sciences, reclamation/restoration, and watershed management. The department offers master of science and doctor of philosophy degrees in entomology, rangeland ecology and watershed management, and soil science. For the rangeland ecology and watershed management degrees, thesis and dissertation problems may be developed in

aspects of range ecology, wildlife habitat, reclamation of disturbed lands, watershed management, utilization and improvement of rangelands, and many other facets of range and forest ecology management. For the entomology degrees, thesis and dissertation problems may be developed in many areas of basic and applied aspects of insect biology and ecology. For soil degrees, thesis and dissertation problems may be developed in many basic and applied aspects of soil science. The degree programs reflect the department's diverse expertise in natural resource and agriculture sciences. Students completing degrees offered through the department are well prepared for careers in natural resource management and sustainable agriculture (e.g., range management, watershed management, restoration ecology/reclamation of degraded land, wildlife habitat management, biocontrol/integrated pest management, soil science, and various types of environmental consulting) or other science careers. A graduate certificate in reclamation and restoration ecology may be obtained after completion of a B.S. degree or in conjunction with an M.S. or Ph.D. degree. Graduate students may also obtain interdisciplinary degrees in association with ESM faculty advisors: M.S. in Water Resources in combination with a number of other degrees, Ph.D. in Hydrologic Sciences or Ph.D. in Ecology and Evolution.

Program Specific Admission Requirements

Admission is contingent upon a faculty member being willing to assume responsibility for mentoring the student as an advisor.

Applicants are encouraged to initiate correspondence with faculty who share similar research interests as part of the process of securing faculty advising commitment. Prospective students that have not identified a graduate advisor willing to mentor them will not be considered for admission.

In special circumstances, and with the faculty advisor's support, a student may be admitted on a provisional basis with continued enrollment dependent upon meeting performance requirements specified at the time of admission.

Program Specific Graduate Assistantship Information

Prospective students are encouraged to directly correspond about future opportunities for graduate assistantships with faculty that share similar research interests.

Graduate courses in the department are offered in entomology, rangeland ecology and watershed management, renewable resources, and soil science.

Environment and Natural Resources Affiliate Degrees

The Bachelor of Science degree in Rangeland Ecology and Watershed Management may also be obtained as an affiliate degree with the School of Environment and Natural Resources. In this case, the degree titles would be Environment and Natural Resources/Rangeland Ecology and Watershed Management. The additional coursework requirements necessary for obtaining an affiliate degree are described in the School of Environment and Natural Resources section of this publication.

Interdisciplinary Graduate Degrees

- Agricultural Economics/Water Resources, M.S. Interdisiplinary
- Ecology and Evolution, Ph.D.
- Geophysics/Water Resources, M.S. Interdisciplinary
- Hydrologic Sciences, Ph.D. (WRESE)
- Rangeland Ecology and Watershed Management/Water Resources, M.S. Interdisciplinary
- Soil Science/Water Resources, M.S. Interdisciplinary

Major

Rangeland Ecology and Watershed Management, B.S.

Rangeland Ecology and Watershed Management provides you with the knowledge, skills, and tools to understand and manage range- and wild-lands in a diversity of landscapes and ecosystems.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Course Requirements

Core Requirements (Courses must be completed with a grade of C or better): 58 Hours

Choose one from LIFE 2022 or LIFE 2023:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

- LIFE 3400 - General Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4530 - Seminar Credits: 1
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- AGEC 4700 - Economics of Range Resources Credits: 3

Choose one from RNEW 4130 or GIST 2310:

- RNEW 4130 - Applied Remote Sensing Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Additional Requirements (15 of these credit hours fulfill USP requirements): 18 Hours

- CHEM 1000 - Introductory Chemistry Credits: 4
- ECON 1020 - Principles of Microeconomics Credits: 3 - *AGEC 1020 also fulfills this course requirement*
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Free Electives: 29 Hours

Remaining credit hours fulfilled by USP requirements: 15 Hours

Minor

Forest Resources Minor

In Forest Resources, you will gain a working knowledge of the processes that influence forest ecology, sustainability, and harvest of the key products derived from forests.

Minimum Requirements: 20 Hours

Required Courses

- RNEW 2100 - Forest Management Credits: 3
- SOIL 4150 - Forest and Range Soils Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4
- REWM 4540 - Problems Credits: 1-4

Choose one from REWM 3100, REWM 4285, or REWM 4700:

- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4700 - Wildland Watershed Management Credits: 3

Choose one from ENR 2300, ENR 3050, ENR/GEOG 4040, or ORTM 3000:

- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3 - *GEOG 4040 also fulfills this course requirement*
- ORTM 3000 - Tourism Theory and Practice Credits: 3

Choose one from REWM 2000, REWM 4440, ZOO 2450, or GEOG 4470:

- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- GEOG 4470 - Fire Ecology Credits: 3

Insect Biology Minor

In Insect Biology, you will learn about insects and their relatives, including basic biology, behavior, ecology, and evolution.

Minimum Requirements: 13 Hours

Required: 3-4 Hours

Choose one from ENTO 1000 or ENTO 1001:

- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

9-10 additional credit hours from the following to meet minimum requirement: 9-10 Hours

- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4678 - Aquatic Entomology Credits: 3
- ENTO 4682 - Insect Anatomy and Physiology Credits: 5
- ENTO 4684 - Classification of Insects Credits: 4
- ENTO 4686 - Problems in Entomology Credits: 1-3
- ENTO 4687 - Insect Evolution Credits: 3
- ENTO 4884 - Insect Behavior Credits: 3

Rangeland Ecology and Watershed Management Minor

Rangeland Ecology and Watershed Management introduces the knowledge, skills, and tools to understand and manage range- and wild-lands in a diversity of landscapes and ecosystems.

Minimum Requirements: 22 Hours

Required Courses

- LIFE 1010 - General Biology Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4530 - Seminar Credits: 1

Plus 3 hours selected from other REWM upper-division (3000- or 4000-level) courses

Reclamation and Restoration Ecology Minor

This program covers the use of basic and applied ecological concepts in the rehabilitation, reclamation and restoration of disturbed ecosystems.

Minimum Requirements: 23 Hours

Required Courses: 15 Hours

- LIFE 3400 - General Ecology Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4 - *Only 2 credit hours of RNEW 4990, Topics in: Ecosystem Restoration, satisfies this requirement.*

Above-Ground Processes: 2-4 Hours

Choose one from BOT 4700, CE 4800, ENTO 4678, REWM 4285, REWM 4540, REWM 4700, REWM 4710, REWM 4750, or REWM 4850:

- BOT 4700 - Vegetation Ecology Credits: 4
- CE 4800 - Hydrology Credits: 3
- ENTO 4678 - Aquatic Entomology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4540 - Problems Credits: 1-4
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3

Below-Ground Processes: 3-4 Hours

Choose one from SOIL 4100, SOIL 4120, SOIL 4140, SOIL 4150, or SOIL 4160:

- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

Planning and Policy: 3 Hours

Choose one from AGEC 4710, ENR 3000, GEOG 4040, REWM 4051, REWM 4052, or REWM 4900:

- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- REWM 4051 - Environmental Politics Credits: 3
- REWM 4052 - Federal Land Politics Credits: 3

- REWM 4900 - Rangeland Management Planning Credits: 3

Soil Science Minor

This program is designed to enhance soil expertise for students majoring in degree programs related to agriculture, natural resources, and/or environmental sciences.

Minimum Requirements: 15 Hours

Required Courses

- SOIL 2010 - Introduction to Soil Science Credits: 4
  Plus 11 credits of upper-division soil science courses for a total of 15 credits

Additional Information

Undergraduate students minoring in Soil Science will enhance their job prospects with federal land management or conservation agencies (e.g., Forest Service, Bureau of Land Management, Natural Resources Conservation Society), state and federal regulatory agencies (e.g., Wyoming Department of Environmental Quality), mining and oil companies, environmental consulting companies, or scientific research organizations.

Graduate

Entomology, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research in Entomology.

Plan A (Thesis)

The master of science degree normally is offered under Plan A which requires at least the university minimum degree requirements and an oral examination.

Plan B (Non-thesis)

Requires 30 hours of graduate credit to include 9 hours of required courses, 11 hours of required electives, and 10 hours of other electives.

A Plan B master of science will be a terminal degree program in the Department of Ecosystem Science and Management. Students completing this option will not qualify for a subsequent Ph.D. program in Department of Ecosystem Science and Management at the University of Wyoming.

Additional Requirements

This program requires 30 credit hours (at least 12 from Entomology) approved by the student's graduate advisory committee and an approved research proposal.

Entomology, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in Entomology.

Additional Requirements

This program requires 72 credit hours (at least 12 from Entomology) that may include credits earned during a master's degree that are approved by the student's graduate advisory committee. The program also requires an approved research proposal.

Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework complete) and a final oral examination.

Insect Biology/Entomology Graduate Study Minor

This minor is designed to complement a related graduate degree. Knowledge of the biology, ecology and classification of insects is crucial to understanding the effects they have on agriculture, human health, and ecosystems.

Rangeland Ecology and Watershed Management, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to communicate with the public and potential clients and to conduct rigorous scientific research in rangeland ecology and watershed management.

Plan A (Thesis)

The master of science degree normally is offered under Plan A which requires at least the university minimum degree requirements and an oral examination.

An oral defense of the thesis is required.

Plan B (Non-thesis)

Plan B is available under special circumstances and requires 30 hours of graduate coursework.

Plan B candidates must also prepare one professional paper (i.e., content and form compatible with publication in a scientific journal) or, if the adviser requests, two professional papers in selected topic areas.

An oral defense of the paper(s) is required.

Additional Requirements

This program requires 30 credit hours (at least 12 from Rangeland Ecology and Watershed Management) approved by the student's graduate advisory committee and an approved research plan.

Rangeland Ecology and Watershed Management, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in rangeland ecology and watershed management.

Requirements

This program requires 72 credit hours (at least 12 from Rangeland Ecology and Watershed Management) that may include credits earned during a master's degree that are approved by the student's graduate advisory committee. The program also requires an approved research plan. Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework is complete) and a final oral examination.

Soil Science, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research in soil science.

Plan A (Thesis)

Plan A requires the university minimum degree requirements and an oral final examination.

Plan B (Non-thesis)

Plan B is available and requires 30 hours of graduate coursework.

An oral defense of the paper(s) is required.

Additional Requirements

This program requires 30 credit hours (at least 12 from Soil Science) approved by the student's graduate advisory committee and an approved research plan.

Soil Science, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in soil science.

Additional Requirements

This program requires 72 credit hours (at least 12 from Soil Science) that include credits earned during a master's degree that are approved by the student's graduate advisory committee and an approved research plan.

Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework is complete) and a final oral examination.

Certificate

Reclamation/Restoration Ecology Graduate Certificate

The Reclamation/Restoration Ecology (RRE) graduate certificate prepares the student to use basic and applied ecological concepts to reclaim, rehabilitate, and restore disturbed ecosystems.

Minimum Requirements: 15 Hours

Reclamation and Restoration Ecology: 8 Hours

- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- RNEW 5990 - Topics In: Credits: 1-4 - *Only 2 credit hours of RNEW 5990, Topics in: Ecosystem Restoration, satisfies this requirement.*

Reclamation Problems: 4 Hours

- SOIL 5565 - Research in Soil Science Credits: 1-4

AND/OR

- REWM 5640 - Investigation Credits: 1-4

Electives: 3 Hours

Choose one from the following options:

- BOT 5700 - Vegetation Ecology Credits: 4
- BOT 5730 - Plant Physiological Ecology Credits: 4
- BOT 5780 - Biogeochemistry Credits: 3
- PLNT 5070 - Weed Science and Technology Credits: 4
- PLNT 5470 - Seed Science and Technology Credits: 3
- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5570 - Advanced Geohydrology Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- REWM 5750 - Wildlife Habitat Restoration Ecology Credits: 3
- RNEW 5540 - Shrubland Ecology Credits: 3
- SOIL 5110 - Modeling Water and Chemical Transport in Vadose Zone and Groundwater Systems Credits: 4
- SOIL 5130 - Chemistry of the Soil Environment Credits: 3
- SOIL 5140 - Soil Microbiology Credits: 4
- SOIL 5150 - Forest and Range Soils Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

Additional Information

The graduate certificate will be granted to students who have completed a B.S. in an appropriate science-oriented discipline or are currently enrolled in an M.S. or Ph.D. program.

The graduate certificate will also be available to professionals working in reclamation/restoration-oriented fields seeking to upgrade their training in reclamation and restoration ecology. Those interested in the graduate certificate will be required to complete the course work listed above, as well as write a synopsis paper with a formal presentation advertised as an open forum seminar.

Department of Family and Consumer Sciences

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Web site: www.uwyo.edu/fcs
Department Head: Dr. Jill Keith

Associate Professors:

JENNIFER HARMON, B.S. Illinois State University 2009; M.S. The Ohio State University 2013; Ph.D. 2014; Associate Professor, Design, Merchandising, and Textiles 2021, 2015.

ERIN IRICK, B.S. Kansas State University 2000; M.S. 2006; Ph.D. Oklahoma State University 2013; Associate Professor, Design, Merchandising, and Textiles 2019, 2013.

JILL KEITH, B.S. North Dakota State University 2000; M.S. Capella University 2009; Ph.D. North Dakota State University 2016; Associate Professor, Human Nutrition and Food/Dietetics 2022, 2016.

ALYSSA McELWAIN, B.A. Kansas State University 2006; M.S. Purdue University 2008; Ph.D. Auburn University 2015; Associate Professor, Human Development and Family Sciences 2021, 2015.

BERNARD STEINMAN, B.A. University of Washington 1991; M.S. Mississippi State University 2004; Ph.D. University of Southern California 2010; Associate Professor, Human Development and Family Sciences 2022, 2015.

CHRISTINE WADE, B.S. Willamette University 2001; M.S. University of Wyoming 2005; Ph.D. 2008; Associate Professor, Human Development and Family Sciences 2015, 2008

Assistant Professors:

GRACE SHEARRER, B.S. University of Wyoming 2012; Ph.D. University of Texas at Austin 2016. Assistant Professor, Human Nutrition and Food/Dietetics 2020.

Academic Professionals:

JENNA CHALCRAFT, B.S 2013 University of Wyoming; M.S. 2019; Assistant Lecturer/Program Director Human Nutrition and Food/Dietetics 2023

SARAH LEE, B.A. and M.S. University of Wyoming 1981; 1996; Assistant Lecturer, Human Development and Family Sciences 2020.

TREVA SPROUT AHRENHOLTZ, B.S. 1993, 1997 University of Wyoming; M.S. 1995; Senior Lecturer, Design, Merchandising, and Textiles 2013, 2005.

Professor Emeritus:

Donna Brown, Bruce Cameron, Saul Feinman, Michael Liebman, Judith A. Powell, Rhoda Schantz, Virginia Vincenti, Mary Kay Wardlaw, Randolph R. Weigel, Karen Williams

Department Information

Our mission is to enhance the physical, social, and economic well-being of individuals, families, and communities, emphasizing healthy and sustainable

living across the lifespan. We fulfill our mission through instructional, research, and outreach/extension efforts that challenge, motivate, and inspire.

Family and Consumer Sciences integrates the fundamental components of human life - food, shelter, clothing, human relationships, and family - with larger societal systems. Through majors in design, merchandising and textiles; human food and nutrition; and human development and family sciences, our department prepares learners to meet the opportunities and challenges of today's complex world.

All students pursuing a Bachelor of Science degree in the department of Family and Consumer Sciences are required to complete a minimum of 120 credit hours that include a) University Studies requirements (USP); b) departmental core curriculum; and c) courses in one of the following majors: Design, Merchandising and Textiles; Human Development and Family Sciences; or Human Nutrition and Food. Majors in Design, Merchandising and Textiles must select one of three concentrations: apparel design and product development; interior design, or merchandising. Majors in Human Development and Family Sciences may select a concentration in family and consumer sciences teacher certification or professional child development. Human Nutrition and Food majors may choose to apply to the Didactic Program in Nutrition and Dietetics.

Family and Consumer Sciences Student Learning Outcomes

Students graduating with a degree from the Department of Family and Consumer Sciences will be proficient in their major as well as be able to effectively communicate (both written and orally), possess intellectual skills (such as critical and creative thinking and problem solving), and demonstrate appropriate levels of professionalism.

Family and Consumer Sciences Core Requirements

A core curriculum is required of all majors in the Department of Family and Consumer Sciences. This requirement is based on a common body of knowledge in family and consumer sciences which contains concepts relevant to all majors and concentrations.

The Family and Consumer Sciences Core consists of the following requirements.

All majors must complete the following course:

- FCSC 2200 - Professionalism and Communication in FCSC

Students must also select one course from each of the following categories outside their major, in consultation with their advisor:

Design, Merchandising and Textiles

The Design, Merchandising, and Textiles (DMT) program emphasizes the study of historic clothing and textiles, merchandising of textile and apparel products, retail business sector applications, and various aspects of apparel design, including both artistic and functional design options

Human Development and Family Sciences

The Human Development and Family Sciences (HDFS) program is designed for professionals currently working in human services fields who would like further education and serve individuals and families across the lifespan.

Human Nutrition and Food

The Human Nutrition and Food Science (HNF) program enables students to pursue studies in areas such as human nutrition and metabolism, food product development, community nutrition, food microbiology, sports nutrition, and disease prevention.

Major

Design, Merchandising and Textiles - Apparel Design and Product Development Concentration, B.S.

Allows students to develop the technical and creative skills necessary for the development of apparel and textile products from concept to finished product.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Apparel Design and Product Development Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2175 - Fashion Illustration Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 2270 - Advanced Apparel Construction Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3174 - Flat Pattern Design Credits: 3
- FCSC 3175 - Apparel Design Through Draping Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4176 - Historic Clothing Credits: 3
- FCSC 4178 - Fiber Arts Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3
- FCSC 4185 - Product Development and Technology Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3
- FCSC 4960 - International Study Tour FCS Credits: 3 **OR** FCSC 4970 - Design and Merchandising Internship

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- AGEC 1010 - Principles of Macroeconomics Credits: 3
  OR
- AGEC 1020 - Principles of Microeconomics Credits: 3
- ART 1005 - Drawing I Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
  OR
- PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

Design, Merchandising and Textiles - Interior Design Concentration, B.S.

Prepares students to creatively, effectively, and sustainably solve design problems for professional practice in residential and commercial interior design.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Interior Design Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3180 - Contract Design I Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 3188 - Interior Design Studio II Credits: 3
- FCSC 3288 - Environmental Psychology and Inclusive Design Credits: 1
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3
- FCSC 4188 - Contract Design II Credits: 3
- FCSC 4288 - Professional Practice and Advanced Interiors Studio Credits: 4

- FCSC 4960 - International Study Tour FCS Credits: 3
  OR
- FCSC 4970 - Design and Merchandising Internship Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3
- ARE 3030 - History of Architecture Credits: 3
- ART 1005 - Drawing I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
- ECON 1000 - Global Economic Issues Credits: 3
  OR
- AGEC 1010 - Principles of Macroeconomics Credits: 3
  OR
- AGEC 1020 - Principles of Microeconomics Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

Design, Merchandising and Textiles - Merchandising Concentration, B.S.

Offers knowledge and application of business principles within the fashion and interior industries; including retailing, sourcing, and marketing for apparel and interior products.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Merchandising Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 4160 - Merchandising Strategies and Technology Credits: 3

- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4176 - Historic Clothing Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3
- FCSC 4960 - International Study Tour FCS Credits: 3 **OR** FCSC 4970 - Design and Merchandising Internship Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- ACCT 2010 - Principles of Accounting I Credits: 3
- AGEC 1010 - Principles of Macroeconomics Credits: 3 **OR** AGEC 1020 - Principles of Microeconomics Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4 **OR** CHEM 1020 - General Chemistry I Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- SOC 1000 - Sociological Principles Credits: 3 **OR** PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

A minor in Entrepreneurship or Professional and Technical Selling through the College of Business is recommended for students in this concentration.

Human Development and Family Science (B.S.) - Family and Consumer Sciences Teacher Certification Concentration

Leads to certification/licensure to teach family and consumer sciences (FCS) in secondary schools.

Program Information

This program is made possible through a partnership agreement with UW Family and Consumer Sciences, Colorado State University (CSU) Family and Consumer Sciences program and the CSU Center for Educator Preparation. While meeting the requirements for the Human Development and Family Sciences concentration, students will use electives from other FCS concentrations to prepare them to teach family and consumer sciences in middle or secondary schools. By participating in this partnership, students earn dual bachelor's degrees - one from UW and one from CSU. Students must earn a minimum of 154 credit hours between the two programs (minimum of 120 at UW and a minimum of 34 at CSU) in order to be awarded a degree from each institution. Additional semesters will be necessary to fulfill the requirements of both degrees.

Students must meet all entry requirements at UW and CSU. The CSU licensure program requires students to earn a C or above in all content courses and teacher licensing courses, and a passing score on the appropriate licensing exam. Therefore, a grade of C or above must be earned in all UW courses and an overall 2.750 GPA be maintained for transfer to CSU to fulfill their program requirements. Upon completion of the UW portion, students will then take the remaining courses needed to meet Wyoming and Colorado certification/licensure requirements at CSU in Ft. Collins, Colorado. In their last semester, if they so choose, Wyoming students may complete their student teaching requirements in a Wyoming FCS school classroom with supervision by a licensed FCS teacher educator. In addition to earning dual degrees, students meet the requirements to apply for certification/licensure in Wyoming and in Colorado. Both licenses are reciprocal in many other states.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Development and Family Sciences Required Courses

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3

OR

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4125 - Professional Practices in Human Development and Family Sciences Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

Additional Required Courses

- CHEM 1000 - Introductory Chemistry Credits: 4
  OR
- CHEM 1020 - General Chemistry I Credits: 4
- COMM 1030 - Interpersonal Communication Credits: 3
- ECON 1000 - Global Economic Issues Credits: 3
  OR
- ECON 1010 - Principles of Macroeconomics Credits: 3
  OR
- ECON 1020 - Principles of Microeconomics Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
  OR
- HIST 1221 - U.S. From 1865 Credits: 3
- LIFE 1002 - Discovering Science Credits: 3
  OR
- LIFE 1003 - Current Issues in Biology Credits: 4
  OR
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Additional Concurrent and CSU Coursework

After completion of UW coursework, three additional semesters are required for completion of this teacher certification option. The first semester will require concurrent enrollment at UW and CSU. Required UW course FCSC 4117 (online - 3 credit hours) will be taken while enrolled at CSU to preserve WEU eligibility. Four additional credit hours must be transferred to UW from the second and third semesters' coursework at CSU to meet UW's 120 credit hour graduation requirement.

First Semester

Concurrent Fall Semester UW/CSU

- EDUC 331 - Educational Technology Credits: 2

- EDUC 340 - Literacy and the Learner - Phase I - RL Credits: 3 (Not included in WUE tuition)

- EDUC 350 - Instruction I: Individualization/Mgt - Phase II - TL Credits: 3

- EDUC 386 - Practicum - Instruction I - Phase II - TL 1

- EDCT 451 - Methods, FCS Education Credits: 4

- FCSC 4117 - Understanding Community Leadership Credits: 3 (online from UW)

Second Semester

Spring Semester at CSU

- EDUC 450 - Instruction II: Standards/ Assessment - Phase III - T Credits: 4
- EDUC 486 - Practicum - Instruction II - Phase III - TL 1
- FACS 479 - Colloquium - FCS Credits: 2

Complete one of the following and transfer it to UW:

- A course from Art/Humanities (Choose one: E140 - The Study of Literature, PHIL100 - The Appreciation of Philosophy, or TH141 - Introduction to Theater) Credits: 3

OR

- HES 145 Health and Wellness Credits: 3

Final Semester

Fall Semester at CSU

- EDCT 485 - Student Teaching - Phase IV - TL Credits: 11
- ECDT 492 Seminar - Professional Relations - Phase IV - TL Credits: 1 (Transfer to UW)

Total UW Degree Minimum: 120 Hours

Total CSU Degree Minimum: 34 Hours

Total for Both Degrees: 154 Hours

Additional Requirements

Students must satisfactorily complete a mandatory security screen (background check).

Additional Requirements

Students must satisfactorily complete a mandatory security screen (background check).

Human Development and Family Science (B.S.) - Professional Child Development Concentration

Prepares students for teaching and administrative positions in early childhood development and care.

Program Information

The Professional Child Development concentration is offered by online delivery only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses Before Entry

Students must complete the three courses listed below prior to entry.

- EDEC 1020 - Introduction to Early Childhood Education Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Professional Child Development Required Courses After Entry

Grade of C or above required.

- FCSC 2050 - Safety, Nutrition & Health in Early Childhood Programs Credits: 2
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3

OR

- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3
- FCSC 4130 - Internship in Child Development Credits: 6-8

OR

- FCSC 4131 - Administration Internship in Child Development Credits: 6-8
- FCSC 4138 - Family Stress and Coping Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following

- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- EDEC 3000 - Observing Young Children Credits: 3
- EDEC 3220 - Curriculum and Learning Environments in Early Childhood Education Credits: 3
- EDEC 4320 - Oral and Written Language Acquisition Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3

OR

- ENGL 4075 - Writing for Non-Profits Credits: 3
- PSYC 4310 - Developmental Psychopathology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Students must satisfactorily complete a mandatory security screen (background check).

All Professional Child Development students are required to complete a 6-8 credit hour internship.

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Students must satisfactorily complete a mandatory security screen (background check).

All Professional Child Development students are required to complete a 6-8 credit hour internship.

Human Development and Family Sciences, B.S.

Prepares students to work in a variety of critical fields that serve individuals and families across the lifespan, including: children, youth, older adult and family support programs, community and governmental agencies, and higher education.

Majors may choose the Human Development and Family Science (B.S.) - Professional Child Development Concentration or Human Development and Family Science (B.S.) - Family and Consumer Sciences Teacher Certification Concentration

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3

- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Development and Family Sciences Required Courses

Grade of C or above required.

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4125 - Professional Practices in Human Development and Family Sciences Credits: 3
- FCSC 4132 - Internship in Human Development and Family Sciences Credits: 4-6

  OR
- FCSC 4130 - Internship in Child Development Credits: 6-8

  OR
- FCSC 4131 - Administration Internship in Child Development Credits: 6-8
- FCSC 4135 - Program Evaluation Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade of C or above required.

Complete one of the following:

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3

Additional Required Courses

- ENGL 4010 - Technical Writing in the Professions Credits: 3
  OR
- ENGL 4075 - Writing for Non-Profits Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Upon declaring this major, students must satisfactorily complete a mandatory security screen (background check).

All Human Development and Family Sciences majors are required to complete a 4-6 credit hour internship.

Human Nutrition and Food (B.S.) - Dietetics Concentration

Provides the required coursework to pursue an approved post-graduation supervised practice experience (dietetic internship) to become a Registered Dietitian Nutritionist (RDN).

Program Introduction

The UW Didactic Program in Nutrition and Dietetics (DPND) is nationally accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics. Entrance into

the DPND is made only through an application process. Each prospective DPND student will initially enter the Human Nutrition and Food major. It is recommended that students apply to the DPND in the spring semester of their sophomore year. The academic requirements and supervised practice experience must be completed before the student is eligible for the Registration Examination for Dietitians administered by the Commission on Dietetic Registration (CDR), the credentialing agency for the Academy.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses - Before DPND Admission

Students must complete the following courses with a minimum grade point average of 3.0 prior to DPND application.

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 1411 - Scientific Study of Food Lab Credits: 1
- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MOLB 2021 - General Microbiology Credits: 4

Also required:

- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Required Courses - After DPND Admission

In addition to USP and upper division requirements, students must complete the following courses after admission to the DPND while maintaining an overall grade point average of 3.0. Failure to maintain a grade point average of 3.0 could result in program probation and/or suspension.

Grade of C or above required

- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 3150 - Intermediate Foods Credits: 2
- FCSC 3152 - Food Systems Production Credits: 3
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- FCSC 4150 - Experimental Foods Credits: 3
- FCSC 4200 - Professionalism in Dietetics Credits: 3
- FCSC 4210 - Therapeutic Nutrition I: Nutrition Assessment and Diagnosis Credits: 4
- FCSC 4220 - Therapeutic Nutrition II Credits: 4
- FCSC 4230 - Therapeutic Nutrition Counseling Credits: 2

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade of C or above required.

Complete one of the following

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3

- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3

Additional Required Courses

Some courses may require grades of C or above. Consult your advisor.

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
  OR
- CHEM 2420 - Organic Chemistry I Credits: 4
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- MGT 2100 - Management and Organizations Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Human Nutrition and Food, B.S.

Prepares students for careers in human nutrition and the food industry as well as entry into graduate or health professional school.

Students in the Human Nutrition and Food major may choose to apply to the Didactic Program in Nutrition and Dietetics.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Nutrition and Food Required Courses

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 1411 - Scientific Study of Food Lab Credits: 1
- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- FCSC 4150 - Experimental Foods Credits: 3

Human Nutrition and Food Elective

Grade of C or above required.

Complete one of the following:

- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 3150 - Intermediate Foods Credits: 2
- FCSC 3152 - Food Systems Production Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade of C or above required.

Complete one of the following:

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3

Additional Required Courses

Some courses may require grades of C or above. Consult your advisor.

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

  OR
- CHEM 2420 - Organic Chemistry I Credits: 4
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Minor

Apparel Design Minor

A minor in Apparel Design enables students to gain competency in areas expected of apparel designers; combining technical and creative skills with industry knowledge for the design and creation of fashionable and functional clothing.

Required Courses

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 2175 - Fashion Illustration Credits: 3
- FCSC 2270 - Advanced Apparel Construction Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3174 - Flat Pattern Design Credits: 3
- FCSC 3175 - Apparel Design Through Draping Credits: 3

Plus one of the following

- FCSC 1180 - Applied Design Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3

Plus one of the following

- FCSC 4178 - Fiber Arts Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3

Minor Total: 27 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Human Development and Family Sciences Minor

Provides students with a foundation in the basic principles and knowledge of human development and family sciences across the lifespan that can enrich and complement their primary area of study.

Required Courses

- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3

Plus 12 credit hours from the following:

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3

- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4135 - Program Evaluation Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

Minor Total: 22 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Human Nutrition Minor

A minor in Human Nutrition and Food enhances degrees in kinesiology and health, food science, nursing, and related fields. Students learn how food choices influence health. *Does not prepare students to provide nutrition therapy or counseling*.

Required Courses

- FCSC 1141 - Principles of Nutrition Credits: 3
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Plus one of the following

** Course can be used to fulfill only one category.*

- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4 *
- MOLB 3610 - Principles of Biochemistry Credits: 4

Plus three of the following

** Course can be used to fulfill only one category.*

- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3

- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4 *
- FCSC 4147 - Nutrition and Weight Control Credits: 3

Minor Total: 23-25 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Interior Design Minor

A minor in Interior Design enables students with career interests in this field to gain experience in the competency areas expected of interior designers.

Required Courses

- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 3288 - Environmental Psychology and Inclusive Design Credits: 1
- FCSC 3171 - Introduction to Textile Science Credits: 3
- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3

Plus one of the following

- FCSC 3180 - Contract Design I Credits: 3
- FCSC 4188 - Contract Design II Credits: 3

Plus one of the following

- FCSC 1180 - Applied Design Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ARE 3600 - Architectural Design Studio III Credits: 3

Plus one of the following

- ARE 3030 - History of Architecture Credits: 3
- ART 2020 - Art History II Credits: 3

Minor Total: 21 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Additional Requirements

The Interior Design minor is sponsored jointly by the Departments of Family and Consumer Sciences and Civil and Architectural Engineering. Students who hope to use this minor to prepare for professional certification examination following graduation should consult the sponsoring departments to receive an advisor for the minor.

Graduate

Family and Consumer Sciences - Master of Science

The master's program in family and consumer sciences offers three specialized and very different areas of emphasis for a variety of pathways and careers.

General Requirements

All emphasis areas listed below require a minimum of 30 credit hours of coursework at the 4000/5000 level. Only nine credit hours of 4000-level courses are allowed in this master's program. The student may be required to complete more than the minimum credit hours to satisfy prerequisites or because the student's committee determines additional coursework is required for the student to reach their professional objective.

The student is responsible for meeting all deadlines, submitting all required forms, and for fulfilling all requirements for the degree.

Design, Merchandising and Textiles

This program offers the study of textiles, merchandising of textile and apparel products, various aspects of apparel design and product development including creative and functional design options, and various aspects of interior design.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (as approved by the student's graduate committee):

- FCSC 5181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 5182 - Environmental Sustainability in Design, Merchandising and Textiles Credits: 3
- AGEC 5650 - Communicating Research Credits: 3

AND:

8 credit hours from the following courses:

- FCSC 5171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 5172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 5173 - Textile Science Seminar Credits: 3
- FCSC 5176 - Historic Clothing Credits: 3
- FCSC 5178 - Fiber Arts Credits: 3
- FCSC 5179 - Historic Textiles Credits: 3
- FCSC 5188 - Contract Design II Credits: 3
- FCSC 5288 - Professional Practice and Advanced Interiors Studio Credits: 4
- FCSC 4160 - Merchandising Strategies and Technology Credits: 3
- FCSC 4185 - Product Development and Technology Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3

AND:

Student must complete the following (as approved by the student's graduate committee):

6 credit hours of supporting courses from arts, humanities, natural or social sciences

3 credit hours of supporting research courses

4 credit hours of FCSC 5960 - Thesis Research

Human Development and Family Sciences

This program is designed for professionals who are currently working in human services fields and would like to further their education. This is an entirely online degree program that allows students to progress at their own pace.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (as approved by the student's graduate committee):

- FCSC 5112 - Family Decision and Resource Management Credits: 3
- FCSC 5117 - Understanding Community Leadership Credits: 3
- FCSC 5118 - Family Policy Credits: 3
- FCSC 5122 - Developmental Contexts Across the Lifespan Credits: 3
- FCSC 5135 - Program Evaluation Credits: 3
- FCSC 5138 - Family Stress/Coping Credits: 3
- EDRE 5530 - Introduction To Research Credits: 3 **OR** EDRE 5550 - Action Research Credits: 3

Student must complete the following (as approved by the student's graduate committee):

8 credit hours of supporting courses

4 credit hours of FCSC 5960 - Thesis Research

Human Nutrition and Food

This program increases the understanding of food and nutritional science and how to apply that knowledge to disease prevention and enhancement of human potential.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (approved by graduate committee):

- 18 credit hours of courses from food and nutritional sciences, biological, natural and social sciences 6 credit hours of supporting research courses
- 2 credit hours of graduate research seminars
- 4 credit hours of FCSC 5960 - Thesis Research

Application Requirements

Admission to our graduate program and selection for department-funded assistantships is highly competitive. Faculty in each program area will review the applications for their program area and priority consideration will be given to applicants who meet or exceed admission requirements and possess research interests that parallel those of the faculty. Applicants will also be evaluated based on their fit with the identified faculty member and whether the identified faculty member is currently accepting graduate students. Faculty members typically select promising students to interview before final decisions are made. We do not offer conditional admission.

Application requirements can be found here: https://www.uwyo.edu/fcs/graduate-programs/index.html

Food Science and Human Nutrition Interdisciplinary Master of Science

An interdisciplinary program where students gain expertise in theory as well as combined research in the areas of human nutrition and metabolism, food product development, community nutrition, food microbiology, meat science and food chemistry.

General Information

Earn your master's degree in food science and human nutrition through the Department of Animal Science or Family and Consumer Sciences!

In this highly competitive graduate degree program, students gain direct experience with data collection, analysis, writing and publication through laboratory and classroom learning experiences. Program faculty are actively

conducting research in the areas of eating behaviors, indigenous/traditional diets, micronutrient needs and deficiencies, food product development, sensory characteristics of food products, health and physical performance of active individuals, nutrition and disease, brain-reward pathway, microbial diagnostics, rumen microbiome, nitrogen/protein metabolism, lipid analysis and alternative feed/forages.

General Requirements

A minimum of 30 credit hours of coursework at the 4000/5000 level is required; only nine credit hours of 4000-level courses are allowed in this master's program. A student may be required to complete more than the minimum credit hours to satisfy prerequisites or because the student's committee determines additional coursework is required for the student to reach their professional objective.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (approved by graduate committee):

- 20 credit hours of courses from food and nutritional sciences, biological, natural and social sciences
- 6 credit hours of supporting research courses
- 4 credit hours of FCSC 5960 - Thesis Research

The student is responsible for meeting all deadlines, submitting all required forms, and for fulfilling all requirements for the degree.

Recommended Prerequisites

The following are recommended for students applying to the program:

- One semester of organic chemistry
- Human or animal nutrition, anatomy and physiology
- Introductory statistics

Application Requirements

Admission to our graduate program and selection for department-funded assistantships is highly competitive. Faculty in each program area will review the applications for their program area and priority consideration will be given to applicants who meet or exceed admission requirements and possess research interests that parallel those of the faculty. Applicants will also be evaluated based on their fit with the identified faculty member and whether the identified faculty member is currently accepting graduate students. Faculty members typically select promising students to interview before final decisions are made. We do not offer conditional admission.

Application requirements can be found here:
https://www.uwyo.edu/fcs/graduate-programs/index.html

Department of Molecular Biology

203 Animal Science/Molecular Biology Bldg.

(307) 766-3300

Website: www.uwyo.edu/MolecBio/

Department Chair: Jesse "Jay" Gatlin

Modern biology is based on a fundamental understanding of molecular processes essential in living organisms. Recent advances in molecular biology have led to an explosion of knowledge about gene expression and the role gene products play in cell function. Undergraduate programs in molecular biology offer learning opportunities at the forefront of modern biology.

The molecular biology degree programs are designed to prepare students for the future by combining a foundation in basic sciences and humanities with a broad selection of courses in molecular biology, biochemistry, genetics and microbiology. Advanced undergraduates attend an outside speaker's program that includes some of the world's best-known scientists. Modern, well-equipped teaching and research laboratories contribute significantly to the educational experience of a student. All junior- and senior-level undergraduates are encouraged to participate in research projects with individual faculty members. Involvement in an active research program provides the student with an additional dimension of learning beyond what is assimilated in courses. A student learns to plan experiments, solve technical problems and experience scientific advances. An undergraduate research project also promotes close interaction between the undergraduate and graduate students, postdoctoral researchers, staff and faculty.

Many molecular biology majors continue their education beyond the bachelor's level by going to graduate school or to medical, dental or veterinary school. Some students choose to use their education to gain employment in biotechnology, clinical or basic research laboratories. Other career choices include teaching, medical technology, law and business. In addition, the Department of Molecular Biology offers the Ph.D., M.S. and M.A. degrees for students who wish to do graduate work in molecular biology, in preparation for careers in academia, the biotechnology and biopharmaceutical industry, medicine, or other professions.

Professors

DAVID FAY, B.S. Tufts University 1988; Ph.D. Yale University 1995; Professor of Molecular Biology 2010, 2001.

JESSE "JAY" C. GATLIN, B.S. University of Colorado-Boulder 1995; Ph.D. University of Colorado-Aurora 2005; Professor of Molecular Biology 2021, 2010.

MARK GOMELSKY, B.S. Moscow Institute of Chemical Technology 1986; M.S. 1988; Ph.D. Institute of Genetics and Selection of Industrial Microorganisms 1991; Professor of Molecular Biology 2011, 1999.

DONALD L. JARVIS, B.S. Idaho State University 1978; M.S. 1980; Ph.D. Baylor College of Medicine 1986; Professor of Molecular Biology 2000, 1998.

DANIEL L. LEVY, B.S. California Institute of Technology 2000; Ph.D. University of California San Francisco 2006; Professor of Molecular Biology 2021, 2011.

DANIEL WALL, B.A. Sonoma State University 1988; Ph.D. University of Utah 1994; Professor of Molecular Biology 2018, 2007.

CYNTHIA WEINIG, B.A. Brown University 1991; Ph.D. Indiana University 1999; Professor of Botany and Molecular Biology 2013, 2007.

Associate Professors

GRANT BOWMAN, B.S. University of Rochester 1997; Ph.D. University of Chicago 2004; Associate Professor of Molecular Biology 2019, 2012.

JASON GIGLEY, B.S. University of New Hampshire 1994; Ph.D. Dartmouth Medical School 2007; Associate Professor of Molecular Biology 2019, 2012.

PAMELA J. LANGER, B.S. Indiana University-Bloomington 1973; Ph.D. Massachusetts Institute of Technology 1980; Associate Professor of Molecular Biology 1994, 1987.

Assistant Professors

THOMAS BOOTHBY, B.S. Tulane University 2008; Ph.D. University of Maryland 2013; Assistant Professor of Molecular Biology, 2019.

EUNSOOK PARK, M.S. Seoul National University 2001; Ph.D. University of Tennessee, Knoxville 2010; Assistant Professor of Molecular Biology 2019.

TODD SCHOBORG, B.S. Murray State University 2008; Ph.D. University of Tennessee 2013; Assistant Professor of Molecular Biology, 2019.

Associate Lecturer

BRIDGET DECKER, B.S. Colorado State University 1998; Ph.D. Dartmouth College 2006; Associate Lecturer Molecular Biology, 2021, 2015.

Assistant Lecturer

KASSANDRA WILLINGHAM, B.S. University of Wyoming 2010, B.S. University of Wyoming-Casper 2017; M.S. Colorado State University 2016; Assistant Lecturer Molecular Biology 2020.

Instructional Teaching Laboratory Coordinator

HOLLY STEINKRAUS, B.A. Ripon College 1987; Ph.D. University of Wyoming 1993; Instructional Teaching Laboratory Coordinator, 2015.

Adjunct Professor

ANNE W. SYLVESTER, B.S. University of Washington 1980; M.S. 1982; Ph.D. 1987; Professor of Molecular Biology 2010, 2006.

Professors Emeritus

Dale Isaak, Randy Lewis, Nancy Petersen, Don Roth, Mark M. Stayton, Peter E. Thorsness, Jordanka Zlatanova

Major

Molecular Biology, B.S.

The Molecular Biology B.S. degree includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, cell biology, electives and research opportunities, in preparation for postgraduate studies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

For the B.S. in Molecular Biology, a student, with assistance from their academic adviser, will design a program of study with General Science and Molecular Biology courses, including biochemistry, microbiology, genetics, cell biology and molecular laboratory methods. Additional courses may be selected to enhance competency in key Emphasis Areas such as Cell Biology and Molecular Genetics, Microbiology, or Preprofessional Health Sciences. Undergraduate research opportunities develop skillsets for graduate school, biotechnology employment or medical research.

Flexibility in course selection permits students to fulfill various requirements for postgraduate and professional schools. The molecular biology program is designed to prepare students for careers in molecular biological research, teaching, and medical or other health professional schools. Students have also progressed from a B.S. in Molecular Biology to careers in business, law, public health policy and genetic counseling.

MOLB Program Learning Outcomes (PLOs)

Students will acquire fundamental understanding of molecular biological processes, learn laboratory and analytical skills, and develop competency in oral and written communication of scientific results and reviews. The MOLB Program Learning Outcomes (PLOs) are listed in categories, followed by the Bloom's taxonomy level targeted by each PLO.

Fundamental principles in Molecular Biology

- Apply foundational concepts in molecular and cellular biology, biochemistry, microbiology and genetics in answering questions in formative activities or summative assessments. (Bloom 3)
- Use core molecular biological principles in comprehension of primary research articles and reviews. (Bloom 3, 6)
- Integrate molecular biological concepts with principles in related fields such as developmental biology, molecular genetics, plant biology, immunology, endocrinology, physiology, clinical biochemistry and genetic disorders in developing an interdisciplinary understanding of molecular mechanisms. (Bloom 6)

Laboratory, Experimental and Research Skills

- Describe and use methods for safe practices in performing laboratory methods, and accurately record and summarize experimental results in an organized manner. (Bloom 1, 2, 3)
- Create hypotheses and develop experimental designs to test them. (Bloom 6)
- Demonstrate the use of basic scientific and laboratory skills in modern microbiology and molecular biology and construct alternate approaches to solve experimental problems. (Bloom 3, 5)

Analytical, Computational and Interpretive skills

- Employ mathematical, statistical, and computational tools including online resources, in analyses of experimental data. (Bloom 4)
- Critically evaluate data from primary literature resources. (Bloom 6)

- Use evidence-based scientific reasoning skills to develop and express interpretations consistent with available data. (Bloom 3)

Communication, Diversity and Translation of Scientific Research

- Employ collaborative skills for working on problems and presentations in groups, with a goal of being inclusive for all learners, who may be diverse in academic background, physical abilities, geographical origin, or practical experiences. (Bloom 3)
- Demonstrate effective dissemination of ideas and experimental results to a broader community using diverse oral, written and digital formats appropriate for different target audiences. (Bloom 3)
- Evaluate effects of, and ethical issues related to, molecular genetic advances on society. (Bloom 5)

Course Requirements

General Science Requirement: 36 Hours

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

MOLB Core Requirement: 31-32 Hours

- MOLB 1050 - Genetic Engineering and Synthetic Biology Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- MOLB 3320 - Molecular Biological Methods Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

  OR
- CHEM 4400 - Biological Chemistry Credits: 3

- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4053 - Communications in Molecular Biology Credits: 3
- MOLB 4440 - Microbial Genetics Credits: 3

  OR
- MOLB 4450 - Cell and Developmental Genetics Credits: 3

- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4051 - Departmental Seminar Credits: 1

  OR
- MOLB 4052 - Summer Seminar Credits: 1

MOLB Elective Requirement: 6 Hours

Courses from the following list that were not used to fulfill the MOLB Core Requirement may be applied to the MOLB Elective Requirement; a maximum of 3 credits of MOLB 4010 may be counted toward the MOLB Elective Requirement.

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4050 - Student Seminar: Topics in ___ Credits: 1
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Molecular Biology Emphasis Areas

After discussing individual interests with a molecular biology adviser, a student should enroll in additional courses that will enhance preparation for a chosen career objective. Listed below are recommended courses that are not required but will further develop a student's skills and understanding in three Emphasis Areas.

Cell Biology and Molecular Genetics

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4

Microbiology

- MICR 2220 - Pathogenic Microbiology Credits: 3
- MICR 4130 - Mammalian Pathobiology Credits: 3
- MICR 4220 - Molecular Mechanisms of Bacterial Pathogenesis Credits: 3
- MICR 4360 - Medical Entomology and Parasitology Credits: 4
- MICR 4710 - Medical Virology Credits: 3
- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Preprofessional Health Sciences

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- MICR 2220 - Pathogenic Microbiology Credits: 3
- MICR 4710 - Medical Virology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PSYC 1000 - General Psychology Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3
- PSYC 2340 - Psychopathology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4

Minor

Molecular Biology Minor

A Molecular Biology minor includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, electives and research opportunities, preparing students for postgraduate studies.

Additional Information

Students wishing to minor in molecular biology should discuss their plans with an adviser. Formal declaration of molecular biology as a minor requires: 1) submission of a form approved by the Department of Molecular Biology and the College of Agriculture, Life Sciences and Natural Resources Dean's Office and 2) appointment of an adviser for the Department of Molecular Biology.

Although there is no specific number of credits required, to receive a minor in molecular biology, a student must complete courses listed in the following areas that total approximately 45 credits:

Minimum Requirements: 43 Hours

General Science Requirement: 20-22 Hours

- LIFE 1010 - General Biology Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

  OR
- CHEM 2420 - Organic Chemistry I Credits: 4

- MATH 2200 - Calculus I Credits: 4

  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5

  OR
- MATH 1400 - College Algebra Credits: 3

  AND
- MATH 1405 - Trigonometry Credits: 3

MOLB Core and Elective Requirement: 23-25 Hours

- MOLB 2021 - General Microbiology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- MOLB 3320 - Molecular Biological Methods Credits: 4

  OR 3 credits of
- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3

- MOLB 3610 - Principles of Biochemistry Credits: 4

  OR
- CHEM 4400 - Biological Chemistry Credits: 3

- **MOLB Elective Requirement:** 6 credits of 4000-level MOLB courses, excluding MOLB 4010, MOLB 4050, MOLB 4051, MOLB 4052, MOLB 4850

Graduate

Molecular Biology, M.A.

The Molecular Biology M.A. program includes advanced courses in molecular sciences with a focus on a research project, preparing students for a Ph.D. program, biotechnology research or other professional postgraduate program.

Additional Information

An applicant for the M.A. degree in Molecular Biology is generally expected to have an equivalent of a B.S. degree in a field related to Molecular Biology. Prior to admission to the program, an applicant needs to contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can apply to the

Molecular Biology graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

The pursuit of an M.A. degree in Molecular Biology is also suitable for students interested in obtaining a master's degree that does not necessarily include laboratory work. Students who intend to pursue education in medical, dental, veterinary or law schools may choose to pursue an M.A. in Molecular Biology before continuing their education. An appropriate research project is selected in consultation with the M.A. degree candidate and their graduate adviser. Student performance is monitored by a thesis committee that will evaluate a student's written thesis, public seminar, and oral thesis defense. A student pursuing an M.A. degree should not have expectations of financial support. Students pursing the M.A. degree in Molecular Biology usually complete their program in two academic semesters plus two summer semesters.

Requirements for M.A. degree in Molecular Biology

An M.A. degree student, in consultation with their graduate committee, must design a Program of Study that includes a minimum of 30 hours of graduate credit. Specific requirements for the M.A. Program in Molecular Biology are listed below.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
- This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate, or transfer credits for an equivalent biochemistry course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of a 5000-level MOLB course from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680.
- 4 credits of the seminar presentation course MOLB5050 (2 credits of MOLB5050 must be taken the first semester a student enrolls in the graduate program).
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- 4 credits of Thesis Research MOLB5960.
- Other credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Molecular Biology, M.S.

The Molecular Biology M.S. program provides training with advanced courses and laboratory research in molecular sciences, with the goal of

providing a foundation for a Ph.D. program, employment or other postgrad program.

Additional Information

The M.S. program in Molecular Biology is a research-intensive degree. An applicant is generally expected to have an equivalent of a B.S. degree in a field related to Molecular Biology. Prior to admission to the program, an applicant must contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can start an application to the Molecular Biology graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

An M.S. candidate will conduct a research project and present their results at departmental seminars and at scientific meetings. Student performance is monitored by a thesis committee that evaluates a student's research proposal, seminar presentations, written thesis, final public seminar, and final oral defense of the thesis. In consultation with the faculty research adviser, a student may elect to serve as a teaching assistant. Graduate assistantships for M.S. degree students are at the discretion of their graduate adviser. Students pursuing the M.S. degree in Molecular Biology usually complete their program in two to three years.

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

Requirements for M.S. degree in Molecular Biology

An M.S. degree student, in consultation with their graduate committee, must design a Program of Study that includes a minimum of 30 hours of graduate credit, including 26 credits of formal coursework and 4 credits of thesis research MOLB5960. Specific requirements for the M.S. degree in Molecular Biology are listed below.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
- This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate, or transfer credits for an equivalent biochemistry course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of a 5000-level MOLB course from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680.
- 4 credits of MOLB5050 Advanced Student Seminar (2 credits of MOLB5050 must be taken the first semester a student enrolls in the graduate program).

- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- 4 credits of Thesis Research MOLB5960.
- Other credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Molecular Biology, Ph.D.

The Molecular Biology Ph.D. program provides training with advanced courses and conducting an extensive laboratory research project in molecular and cellular biology or microbiological research areas.

Additional Information

The Ph.D. in Molecular Biology is a research-intensive degree. Prior to admission to the program, an applicant must contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can start an application to the Molecular Biology Graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

An application to the Ph.D. program should include a curriculum vitae (CV), a 2-page statement of research interests and career plans, contact information for three references, transcripts from previous institutions, and GRE scores. Those students with an M.S. degree may be excluded from the GRE score requirement. Following admission, a student will conduct a guided research project in the laboratory into which they have been accepted. The faculty research adviser is responsible for financial support of the student. A research project is expected to result in publications in peer-reviewed journals as well as presentations at departmental seminars and scientific meetings.

Throughout the degree program, a graduate student is guided and evaluated by their research adviser and graduate committee. A student must develop a Program of Study approved by the student's graduate committee. Student performance is monitored by a dissertation committee that evaluates a student's seminar presentations, research proposal, preliminary exam, written dissertation, final public seminar, and final oral defense of the dissertation. In consultation with the faculty research adviser, a student may elect to serve as a teaching assistant. Students pursing the Ph.D. degree in Molecular Biology usually complete their program in approximately five years.

Requirements for Ph.D. degree in Molecular Biology

A Program of Study for the Ph.D. in Molecular Biology must include a minimum of 72 semester hours of credit at the 4000 level or above from UW or equivalent levels from another approved university. This 72-hour requirement may include graduate credits earned while working toward the master's degree in the same area, but at least 42 hours (of the 72) must be

earned in formal coursework, including the specific requirements for the program detailed below. Additional credits toward the 72-hour requirement may include additional formal course credits, Dissertation Research credits (MOLB5980), or MOLB5960 credits or Internship credits (MOLB5990).

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

Specific requirements for the Ph.D. degree in Molecular Biology are listed below. The Program of Study is determined in consultation with the student's graduate committee and must be on file in the Office of the Registrar before the preliminary examination can be scheduled.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
- This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate or as part of a master's program, or transfer credits for an equivalent course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of 5000-level MOLB courses from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680, MOLB5700.
- 4 credits of MOLB5050 Advanced Student Seminar; 2 credits of MOLB 5050 must be taken the first semester a student enrolls in the graduate program.
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- MOLB5980 Dissertation Research (number of credits to be determined in consultation with the student's graduate committee).
- Other course credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Department of Plant Sciences

Room 50 Agriculture Building
PHONE: (307) 766-3103
Website: www.uwyo.edu/plantsciences
Department Head: Andrew Kniss

Professors:

JIM HEITHOLT, B.S. Western Illinois University 1978; M.S. University of Missouri 1980; Ph.D. University of Kentucky 1984; Professor of Crop Physiology 2014.

ANDREW R. KNISS, B.S. University of Wyoming 2001; M.S. University of Nebraska-Lincoln 2003; Ph.D. University of Wyoming 2006; Professor of Weed Ecology and Management in Cropping Systems 2018, 2007.

BRIAN A. MEALOR, B.S. North Georgia College and State University 1999; M.S. University of Wyoming 2003; Ph.D. 2006; Director, Sheridan Research and Extension Center; Professor of Rangeland Restoration and Weed Science 2023, 2009.

URSZULA NORTON, B.S. Warsaw Agricultural University 1988; M.S. 1990; M.S. Iowa State University 1995; Ph.D. University of Montana 2000; Professor of Agroecology and Soil Science 2022, 2009.

Associate Professors:

RANDA JABBOUR, B.S. Rochester Institute of Technology 2003; Ph.D. Pennsylvania State University 2009; Associate Professor of Agroecology 2019, 2013.

Assistant Professors:

CLINT BEIERMANN, B.S. University of Wyoming 2012; M.S. 2017; Ph.D. University of Nebraska-Lincoln 2020; Assistant Professor, Forage Crop Production and Weed Management 2023.

KELSEY BROCK, B.S. University of Alberta 2010; M.S. 2014; Ph.D. University of Hawai‘i - Mānoa 2021; Assistant Professor, Extension Weed Specialist (Invasive Plants) 2022.

JI-JHONG "JJ" CHEN, B.S. National Chung Hsing University, Taiwan 2018; M.S. Utah State University 2020; Ph.D. 2023; Assistant Professor, Horticultural Crop Physiologist 2023.

DONNA HARRIS, B.S. University of Georgia 1998; M.S. 2001; Ph.D. 2014; Assistant Professor of Plant Breeding and Genetics 2020.

Academic Professionals:

JENNA MEEKS, B.S. Colorado State University 2010; M.S. University of Wyoming 2016; Assistant Research Scientist 2021.

ELIZABETH MOORE, B.S. West Texas A&M University 2001; M.S. 2004; Assistant Lecturer of Horticulture and Plant Production 2021.

Emeritus/Retired Faculty:

Rollin H. Abernethy, James Cook, Ron Delaney, Mark Ferrell, Alan Gray, Robin W. Groose, Bernie Kolp, James M. Krall, Karen Panter, William Stump, Thomas D. Whitson, David Wilson

Plant Production and Protection Major (B.S.)

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection (Plant Production and Protection, B.S.), with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in, and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management specialist, ecologist, research associate or technician, agronomist,

biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the QuickStart Program section below or online at https://www.uwyo.edu/plantsciences/graduate-studies/quickstart-program.html.

Agronomy Minor (Agronomy Minor)

Minimum Requirements: 19 Hours

Agroecology Minor (Agroecology Minor)

Minimum Requirements: 20 Hours

Horticulture Minor (Horticulture Minor)

Minimum Requirements: 20 Hours

Plant Protection Minor (Plant Protection Minor)

Minimum Requirements: 19 Hours

Plant Production and Protection/Environment and Natural Resources Program, B.S.

(ENR and Plant Sciences)

Students interested in the environment and natural resources may choose to pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources. See the ENR Information and Advising Guide for details.

Graduate Study (M.S. and Ph.D.)

The Department of Plant Sciences offers curricula leading to the master of science and doctor of philosophy degrees in Plant Sciences. Courses within the department are offered in crop science, horticulture, plant pathology, weed science, and agronomy. Interdisciplinary coursework and research projects are common for Plant Sciences graduate students.

Program Specific Admission Requirements

In addition to university minimum requirements, a majority of the department faculty and department head must approve the admission. To be considered for admission, candidates must establish a faculty member willing to serve as advisor.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): a statement of purpose that describes your professional objectives and scientific interests, a current Curriculum Vitae, current academic transcripts, proof of English proficiency (if English is not your primary language) - TOEFL, IELTS, or Duolingo tests are currently accepted, and three letters of recommendation (to be submitted directly by references through the online application). At least two of the letters must be from current or previous university instructors or professional supervisors. Our regular deadlines for fall and spring semester admission are February 15 and October 15, respectively, although we will accept applications any time during the year.

Applicants whose undergraduate cumulative GPA is below 3.0 may be considered via the Professional Experience Track Admissions process if they have had at least two years of relevant professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions section under the "Admission to the University" section of this Catalog.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information, or visit UW's Graduate Education website at http://www.uwyo.edu/uwgrad/.

Program Specific Graduate Assistantship Information

M.S. assistantships include a stipend, plus tuition and fee waiver, and health insurance. Ph.D. assistantships include a stipend, plus tuition and fee waiver, and health insurance. These assistantships are for the 9-month academic year, but summer support is typically available.

Program Specific Degree Requirements

Master of Science in Plant Sciences

Plan A (thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Doctoral Program

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

QuickStart Program (Plant Sciences B.S/M.S.)

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit hour load. Up to six credit hours may be counted toward both the B.S. and M.S. degree programs.

Major

Plant Production and Protection, B.S.

The Plant Production and Protection degree prepares students for careers in agriculture, natural resources, environmental and life sciences, and advanced graduate studies in the plant sciences.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Information

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection, with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in, and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management specialist, ecologist, research associate or technician, agronomist, biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the Plant Sciences Graduate Study section or online at http://www.uwyo.edu/plantsciences/.

Course Requirements

Core Requirements (required of ALL degree recipients): 50 Hours

- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- MATH 1400 - College Algebra Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

Choose one from ANSC 1010, ENTO 1000, or ENTO 1001 (ENTO 1001 preferred if available):

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

- SOIL 2010 - Introduction to Soil Science Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

Choose one from STAT 2050 or LIFE 2100:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4

- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- LIFE 3050 - Genetics Credits: 4

Choose one from PLNT 3000, SOIL 4140, or SOIL 4160:

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

- PLNT 4990 - Plant Sciences Capstone Credits: 3

Practical Experience (must take 6 credit hours from the following): 6 Hours

- PLNT 4820 - Plant Sciences Seminar Credits: 1
- PLNT 4920 - Research Apprenticeship Credits: 1-2
- PLNT 4930 - Internship in Plant Sciences Credits: 1-3
- PLNT 4960 - Plant Sciences Field Studies Credits: 2
- PLNT 4900 - Undergraduate Teaching Practicum Credits: 1-2
- AGRI 4520 - Field Practicum: Extension Work Credits: 1-4

Plant Sciences Electives: 15 Hours

(Select 15 credit hours from PLNT courses, at least 12 of which are upper division)

Supporting Electives: 9 Hours

Select 9 hours of upper division courses from those with the following course prefixes:

- AGEC (Agricultural Economics)
- ANSC (Animal Science)
- BIOL (Biology)
- BOT (Botany)
- ENR (Environment and Natural Resources)
- ENTO (Entomology)
- FDSC (Food Science)
- GIST (Geospatial Information Science and Technology)
- LIFE (Life Sciences)
- MICR (Microbiology)
- MOLB (Molecular Biology)

- REWM (Rangeland Ecology and Watershed Management)
- SOIL (Soil Science)

Free Electives: 25 Hours

Remaining credit hours fulfilled by USP requirements: 15 Hours

Optional Concentrations

Although not required, students may choose to specialize in any of the four optional concentrations below as part of their B.S. in Plant Production and Protection. In order for the concentration to be official, students must "opt in" and add the desired concentration to their degree evaluation.

Agronomy Concentration: 24 Hours

The Agronomy concentration focuses on the intricacies of agronomic crop production along with pest management, genetics, soil science, and other related topics. This is a broad area of study that can be tailored to the student's particular interests. Careers in production, consulting, and pest management abound in the public and private sectors of agriculture. Students learn the ultimate goal of promoting more efficient and sustainable agronomic crop production practices. Skills learned include written and oral communication; sciences such as ecology, chemistry, and genetics; and practical applications such as computer technologies, geographic information systems, soil and water analyses, plant health diagnostics, and general best management practices.

Required: 16 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

- PLNT 2200 - Field Crop Production Credits: 3

  OR
- PLNT 4220 - Crop Yield Physiology Credits: 3

At least 8 additional credit hours from the following: 8 Hours

- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- PLNT 4180 - Greenhouse Crop Production Credits: 4
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4140 - Soil Microbiology Credits: 4

Horticulture Concentration: 21 Hours

Students in the Horticulture concentration learn about the various horticultural commodities and growing operations. Choose from classes including greenhouse crop production, plant propagation, seed technology, organic food production, plant breeding, and allied subjects such as irrigation technology and pest management including plant pathology and weed science. Students may be surprised at the number of career opportunities available in horticulture! These include vegetable and small fruit production, greenhouse management, controlled environment crop production, landscape plants and management, new variety breeding and production, and urban tree care, among many others.

Required: 15 Hours

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3

- PLNT 4180 - Greenhouse Crop Production Credits: 4

OR

- PLNT 4200 - Greenhouse Design and Management Credits: 3

At least 6 additional credit hours from the following: 6 Hours

- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1
- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3

Integrated Pest Management Concentration: 25 Hours

IPM as it is commonly known, melds all aspects of plant pest management under one umbrella. It uses the sciences of plant pathology, entomology, and weed science under the broader plant diagnostics field. The IPM concentration emphasizes understanding pest biology and ecology of the ecosystem as the foundation for making pest management decisions that minimize negative impacts on health and the environment. Students in the IPM concentration will find careers in private consulting, field diagnostics, research and demonstration, and product sales, as well as public sector work in invasive species management.

Required: 16 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4400 - Invasive Plant Ecology Credits: 3

Choose at least one of the following:

- BOT 3600 - Plant Diversity and Systematics Credits: 4
- BOT 4680 - Taxonomy of Vascular Plants Credits: 4
- ENTO 4684 - Classification of Insects Credits: 4
- REWM 4300 - Grass Taxonomy Credits: 3

At least 9 additional credit hours from the following: 9 Hours

- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3

- PLNT 4470 - Seed Science and Technology Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4884 - Insect Behavior Credits: 3
- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3

Agroecology & Evolution Concentration: 21 Hours

Students in this concentration are trained in the ways plants and associated organisms evolve in response to human-impacted environments, and how agroecosystems may change as a result of plant management. Courses include genetics, plant breeding, agroecology, and crop production along with ecology, soil sciences, and others. This concentration provides excellent preparation for graduate school in plant sciences, and also prepares students for careers in conservation, sustainable agriculture, and crop production.

Required: 13 Hours

- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4400 - Invasive Plant Ecology Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

At least 8 additional credit hours from the following: 8 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4520 - Plant Breeding Credits: 3
- BOT 3100 - Plants and Civilization Credits: 3
- BOT 3600 - Plant Diversity and Systematics Credits: 4
- BOT 4700 - Vegetation Ecology Credits: 4
- ENTO 4300 - Insect Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

Plant Production and Protection/Environment and

Natural Resources Program, B.S.

Students interested in the environment and natural resources can pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Information

See the ENR Information and Advising Guide for details.

Minor

Agroecology Minor

The Agroecology minor is ideal for students interested in how plant production systems interact with the surrounding ecosystem. This minor complements many majors related to land management and ecology.

Minimum Requirements: 20 Hours

Required: 11 Hours

- PLNT 1000 - Agroecology Credits: 4

Choose two from PLNT 3030, LIFE 2023, or SOIL 2010:

- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4

9 additional credit hours from the following: 9 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4

- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4400 - Invasive Plant Ecology Credits: 3
- BOT 3100 - Plants and Civilization Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

Agronomy Minor

Agronomy minor students train for careers in crop production and management, consulting, sales, and other areas of modern agriculture. Courses include crop & soil management; weed, insect, and disease management; and others.

Minimum Requirements: 19 Hours

Required: 11 Hours

- PLNT 1000 - Agroecology Credits: 4
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4

8 additional credit hours from the following: 8 Hours

- PLNT 2200 - Field Crop Production Credits: 3
- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4220 - Crop Yield Physiology Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3
- PLNT 4700 - Forage Crop Science Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

Horticulture Minor

Students in the horticulture minor learn basic horticultural practices, plant propagation, organic food production, and

production of various horticultural commodities. Students who want to get their hands dirty are welcome.

Minimum Requirements: 20 Hours

Required: 8 Hours

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1

Choose one from PLNT 1000 or LIFE 1010:

- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General Biology Credits: 4

12 additional credit hours from the following: 12 Hours

- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4180 - Greenhouse Crop Production Credits: 4
- PLNT 4200 - Greenhouse Design and Management Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3

Plant Protection Minor

A combination of weed science, plant pathology, and entomology, the Plant Protection minor provides training for many careers in invasive species management, plant diagnostics, horticulture, and agronomy, among others.

Minimum Requirements: 19 Hours

Required: 19 Hours

- PLNT 1000 - Agroecology Credits: 4
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3

Choose one from ENTO 1000 or ENTO 1001 (ENTO 1001 preferred if available):

- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

Choose one from PLNT 4070 or PLNT 4400:

- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4400 - Invasive Plant Ecology Credits: 3

Choose one from the following:

- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3

Graduate

Plant Sciences, M.S.

The Plant Sciences M.S. emphasizes management of agronomic, horticultural, and forage crops; plant breeding; and invasive species management. Students train for careers in academia and the public and private sectors.

Plan A (Thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Plant Sciences, Ph.D.

A Ph.D. in Plant Sciences is a terminal degree focusing on research in plant production, protection, and management. The scientific training prepares students for careers in academia and the public and private sectors.

Program Information

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree

numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

QuickStart Program

Plant Sciences, B.S./M.S. QuickStart

This program enables accepted students to work simultaneously toward both a B.S. in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and an M.S. in Plant Sciences.

Program Information

The combined Plant Sciences B.S./M.S. QuickStart program enables highly-qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit-hour load. As many as 6 credit hours of undergraduate coursework at the 5000 level (or 4000 level for courses in which no 5000-level course is available) may be counted toward both the B.S. and M.S. degree programs. Additionally, students retain the existing right to reserve up to 6 hours of graduate credit that may be taken during their undergraduate degree program. These 6 reserved credits will NOT count toward both the B.S. and M.S. degrees, but only toward the M.S. degree.

Admission to the program

Minimum requirements for admission to the accelerated program are:

1. completion of sophomore year, 60 credit hours;

2. a minimum overall GPA of 3.0;

3. a minimum GPA of 3.0 in PLNT, RNEW, and REWM courses;

4. a minimum of three letters of recommendation (at least two must be from faculty at UW);

5. a DPS fculty member willing to serve as M.S. advisor; and

6. a research proposal submitted to, and approved by, the student's M.S. advisor and at least one other Plant Sciences faculty member as a presumptive graduate committee member.

Transfer students must have also completed at least 15 credit hours of coursework at UW to be eligible for admission to this program.

If interested in this program, please visit our website at http://www.uwyo.edu/plantsciences/ for further information on additional requirements.

Department of Veterinary Sciences

Department of Veterinary Sciences and the Wyoming State Veterinary Laboratory

(307) 766-9925
FAX: (307) 721-2051
Web site: www.uwyo.edu/vetsci
email: vetscience@uwyo.edu
Department Head: Jonathan Fox

Faculty within the Department of Veterinary Sciences are engaged in teaching, research, and operation of the Wyoming State Veterinary Laboratory (WSVL). Instructional activities contribute to the ANVS and microbiology undergraduate majors. Graduate students within the department are enrolled in the ANVS or MCLS programs. There are opportunities for undergraduate students to obtain experience in research and/or veterinary diagnostic medicine. Faculty research interests span infectious diseases of companion animals, livestock, wildlife, as well as diseases transmissible to humans.

Professors:

JONATHAN H. FOX, B.Sc., B.V.Sc. University of Liverpool, UK 1993; Ph.D. Virginia Tech 2002; Associate Professor UW 2008; Professor UW 2016.

DAVID W. PASCUAL, B.S. University of Florida 1980; M.S. and Ph.D. 1985 and 1987; Professor of Immunology, Montana State University 2005; Professor of Immunology, University of Florida 2012; Wyoming Excellence Chair in Brucellosis UW 2024.

Associate Professors:

BERIT BANGOURA, D.V.M. Leipzig University 2003; Ph.D. 2008; Ph.D. 2015; Diplomate EVPC 2014; Assistant and Associate Professor UW 2017 and 2023 respectively.

MARIA FORZÁN, D.V.M. Universidad Nacional Autónoma de México 1997; M.S. and Ph.D. Atlantic Veterinary College 2000 and 2016; Assistant Professor Cornell University 2017; Associate Professor Long Island University 2019; Associate Professor UW 2023

RAPHAËL V. VANDERSTICHEL, D.V.M and Ph.D. Atlantic Veterinary College 2004 and 2011; Research Scientist and Assistant Professor, Atlantic Veterinary College 2014 and 2016; Associate Professor Long Island University 2019; Associate Professor UW 2024.

Assistant Professors:

ELIZABETH CASE, B.S. Oklahoma State University 2002; Ph.D. University of California-Irvine 2010; Assistant Professor UW 2020.

Clinical Assistant Professor:

JACQUELINE P. KURZ, B.S. Cornell University 2006; B.V.M.&S. Royal (Dick) School of Veterinary Studies,

University of Edinburg, UK 2010; Ph.D. Utah State University 2018; Clinical Assistant Professor UW 2020.

LANI R. BOWER, B.S. Northeastern University 2003; M.S. and D.V.M. Colorado State University, 2019 and 2014; Clinical Assistant Professor UW 2023.

Instructional Professor:

AMY RHOAD, B.S. Molecular Biology/Environmental and Natural Resources. University of Wyoming. May 2014 B.S. Instructional Professor UW 2022. Microbiology. University of Wyoming. May 2014; Ph.D. Animal and Veterinary Sciences. Department of Veterinary Sciences. Instructional Professor Since 2022.

Adjunct Professor:

GEOFFREY J. LETCHWORTH, B.S. Trinity College 1965; D.V.M. New York State College of Veterinary Medicine 1972; Ph.D. Cornell University 1980; Adjunct Professor of Veterinary Sciences 2001.

JENNIFER L. MALMBERG, B.S. Doane University 2004; M.A. Chadron State University 2013; Ph.D. Colorado State University 2018; Adjunct Professor of Veterinary Sciences 2022.

ALEXANDERU-FLAVIU TABARAN, DVM, Ph.D., MSc, Habil., Diplomate ACVP (Anatomic Pathology) Adjunct Professor of Veterinary Sciences 2022.

SAMANTHA ALLEN, BSc and MSc University of Guelph 2007 and 2010; DVM Ontario Veterinary College 2014; PhD University of Guelph 2021; Adjunct Professor of Veterinary Sciences 2021

KERRY SONDGEROTH, B.A. University of New Hampshire 1997; D.V.M. Colorado State University 2006; Ph.D. Washington State University 2013; Assistant Professor of Veterinary Sciences 2014. Associate Professor of Veterinary Sciences 2020.

Professors Emeritus

E. Lee Belden, Francis D. Galey, Bill Jolley, Merl Raisbeck, Lynn Woodard, Gerry Andrews, Myrna Miller

The Department of Veterinary Sciences and the Department of Animal Science have combined their efforts to offer B.S., M.S., and Ph.D. degrees in animal and veterinary science (see listing under this title). Several options within the major are available including preveterinary medicine and animal biology. Undergraduate course offerings of the Department of Veterinary Sciences are listed under the title of pathobiology. They were designed to familiarize students with the principles of animal disease and the basic biological and biomedical sciences.

The department operates the Wyoming State Veterinary Laboratory, an animal disease diagnostic laboratory (wyovet.uwyo.edu). This laboratory provides valuable hands-on experience for students interested in laboratory animal care, laboratory procedures, and research. Excellent faculty mentors are available for students interested in preveterinary medicine, microbiology, and animal biology.

Animal and Veterinary Sciences

The Department of Animal Science and the Department of Veterinary Sciences have combined their efforts to offer several degree options leading to the Bachelor of Science degree in animal and veterinary science. Courses in animal science, food science, and disease biology are the core offerings in the various options. Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

Several degree options allow for specialization and graduate or professional school preparation. A brief description of each option and the educational opportunities they provide is given with the course requirements. A grade of C or better must be earned in the

following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, 3100, 4120, 4540, 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, 2022.

Students are encouraged to participate in activities related to their degree option. The university has livestock, horse and meats judging teams. Each team travels and participates in at least one major exposition a year. Each year, the Academic Quadrathalon competition is held, combining practical and classroom skills for students. Field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Microbiology Club, Range Club, the Pre-vet Club, Wyoming Collegiate Cattlemens Association, and the Ranch Horse Team provide additional educational and recreational opportunities.

Graduate Study

The Department of Veterinary Sciences offers advanced study leading to the Master of Science and doctor of philosophy in animal and veterinary science. Areas of emphasis include: pathology, molecular diagnostics, bacteriology, virology, parasitology, epidemiology, immunology, and toxicology of wild and domestic animals.

Program Specific Admission Requirements

Open to students with a Bachelor of Science degree who meet the requirements set forth in this Catalog.

Recommended prerequisites include: chemistry, biochemistry, animal anatomy and physiology, biology, microbiology, and introductory statistics.

Preferred Requirements

Competitive applicants for either degree program will have a GPA 3.250 or higher and high GRE scores (153 verbal, 149 quantitative, 302 total using best composite scores).

Department of Zoology and Physiology

114 Aven Nelson
(307) 766-4207
Web site: www.uwyo.edu/Zoology
Department Head: Robert S. Seville

Professors:

MERAV BEN-DAVID, B.S. Tel Aviv University 1984; M.S. 1988; Ph.D. University of Alaska 1996; Professor of Zoology and Physiology 2010, 2000.

MICHAEL E. DILLON, B.S. University of Texas, Austin 1998; Ph.D. University of Washington 2005; Professor of Zoology and Physiology 2021, 2009.

JACOB R. GOHEEN, B.S. Kansas State University 1998; M.S. Purdue University 2002; Ph.D. University of New Mexico 2006; Professor of Zoology and Physiology 2020, 2010.

MATTHEW J. KAUFFMAN, B.A. University of Oregon 1992; Ph.D. University of California, Santa Cruz 2003; Professor of Zoology and Physiology 2021, 2006.

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Associate Professor of Zoology and Physiology 2021, 2009.

FRANK J. RAHEL, B.A. Kenyon College 1974; M.S. University of Wisconsin 1977; Ph.D. 1982; Professor of Zoology and Physiology 1998, 1985.

ROBERT S. SEVILLE, B.S. San Diego State University 1981; M.S. University of Wyoming 1987; Ph.D. 1992; Professor of Zoology and Physiology 2011, 1995.

QIAN-QUAN SUN, B.Sc. Shandong Normal University 1990; M.S. 1993; Ph.D. St. Andrews University 1998; Professor of Zoology and Physiology 2016, 2004.

Associate Professors:

MATTHEW D. CARLING, B.S. University of Michigan 1997; M.S. University of Idaho 2002; Ph.D. Louisiana State University 2008; Associate Professor of Zoology and Physiology 2017, 2011.

ANNA D. CHALFOUN, B.A. Smith College 1995; M.S. University of MissouriColumbia 2000; Ph.D. University of MontanaMissoula 2006; Associate Professor of Zoology and Physiology 2016, 2011.

BRIAN D. CHERRINGTON, B.A. Washington University 1996; M.S. Colorado State University 2001; Ph.D. 2005; Associate Professor of Zoology and Physiology 2017, 2011.

AMY C. KRIST, B.A. State University of New York at Potsdam 1991; Ph.D. Indiana University 1998; Associate Professor of Zoology and Physiology 2017, 2004.

AMY M. NAVRATIL, B.S. Colorado State University 1999; Ph.D. 2005; Associate Professor of Zoology and Physiology 2019, 2011.

KARA PRATT, B.A.S. University of Delaware 1989; Ph.D. Brandeis University 2004; Associate Professor of Zoology and Physiology 2017, 2011.

COREY TARWATER, B.S. University of California, Davis 1999; M.S. University of Illinois, Urbana-Champaign 2006; Ph.D. University of Illinois, Urbana-Champaign 2010. Associate Professor of Zoology and Physiology 2022, 2015.

ANNIKA W. WALTERS, B.A. Princeton University 2002; M.S. Yale University 2006; Ph.D. 2009; Associate Professor of Zoology and Physiology 2019, 2011.

Assistant Professors:

NICOLE L. BEDFORD, B.S. University of British Columbia 2010; Ph.D Harvard University 2019; Assistant Professor of Zoology and Physiology 2021.

RILEY FEHR BERNARD, B.Sc. Linfield College 2007; M.Sc. University of Hawaii Hilo 2011; Ph.D. University of Tennessee 2015; Assistant Professor of Zoology and Physiology, 2020.

SARAH M. COLLINS, B.A. Lewis & Clark College 2007; Ph.D. Cornell University 2015; Assistant Professor of Zoology and Physiology 2018.

WILLIAM WARREN FETZER, B.S. University of Wisconsin-Madison 2005; M.S. Cornell University 2009; Ph.D. 2013. Assistant Professor of Zoology and Physiology 2020.

YUN LI, B.S. University of Science and Technology of Chine 1996; M.S. 1998; Ph.D. University of Texas Health Center at San Antonio 2003; Assistant Professor of Zoology and Physiology 2018.

JEROD A. MERKLE, B.S. University of Arizona 2006; M.S. University of Montana 2011; Ph.D. Univesité Laval 2014; Assistant Professor of Zoology and Physiology 2018.

ADAM C. NELSON, B.S. University of Montana 2001; Ph.D. University of Utah 2011; Assistant Professor of Zoology and Physiology 2021.

BRANDON ROBERTS, B.S. Washington State University 2009; Ph.D. Washington State University 2015; Assistant Professor of Zoology and Physiology 2023.

RAMMOHAN SHUKLA, B.S. College of Agriculture Nagpur 2004; M.S. Tamil Nadu Agricultural University 2006; Ph.D. National Institute for Basic Biology, Japan 2014 ; Assistant Professor of Zoology and Physiology 2023.

W.D. (TREY) TODD, B.S. Baylor University 2005; M.A. University of Iowa 2009; Ph.D. 2012; Assistant Professor of Zoology and Physiology 2019.

Assistant Professor of Practice:

BETHANN G. MERKLE, B.A. University of Montana 2007; M.F.A. University of Wyoming 2017; Assistant Professor of Practice 2021.

Senior Academic Professional Research Scientist:

ZHAOJIE ZHANG, B.S. Shandong University 1985; M.S. 1988; Ph.D. University of Oklahoma 1999; Director, Microscopy Core Facility, University of Wyoming 2001; Senior Research Scientist in Zoology and Physiology 2012.

Assistant Academic Professional Research Scientist:

JONATHAN PATRICK KELLEY, A.B. Harvard 2001; Ph.D. University of California, Davis 2012; Assistant Research Scientist in Zoology and Physiology 2018.

Professors Emeritus:

Craig W. Benkman, Harold L. Bergman, Steven W. Buskirk, Francis W. Flynn, Zoltan M. Fuzessery, Robert P. George, William A. Gern, Robert O. Hall, Henry J. Harlow, Wayne A. Hubert, Robert M. Kitchin, J.A. Lillegraven, Frederick G. Lindzey, James R. Lovvorn, Carlos Martinez del Rio, David B. McDonald, Graham Mitchell, James D. Rose, Joan Smith-Sonneborn

Academic Professional Lecturer Emeritus:

Jane Beiswenger

Wyoming Cooperative Fish and Wildlife Research Unit Unit:

Wyoming Cooperative Fish and Wildlife Research Unit
Unit Leader: Matthew W. Kauffman
Assistant Unit Leader for Fisheries: Annika W. Walters
Assistant Unit Leader for Wildlife: Anna D. Chalfoun

Department of Zoology and Physiology

The Department of Zoology and Physiology offers a variety of courses in the biological sciences that encompass many aspects of animal form, function, and biology. Whether you are interested in the intricacies of cell biology or the complexities of ecosystem functioning and whether you want to become a wildlife biologist or a physician, we offer a major that will suit your needs.

Undergraduate Degrees:

Students can choose from three undergraduate degrees: physiology, wildlife and fisheries biology and management, or zoology.

Learning Outcomes for Undergraduates

The learning outcomes that direct the teaching of the department's degrees and which we expect our graduates to have acquired are:

- Competence in basic sciences;
- Competence in the content of the specific courses that constitute the principal knowledge of the degree;
- Ability to comprehend, analyze, and interpret biological data where appropriate; and
- Ability to synthesize information from the biological literature, and communicate it effectively in writing or orally.

Undergraduate Minors:

Minors in human and animal physiology, wildlife fisheries biology management, neuroscience, and zoology are offered.

Graduate Study

The Department of Zoology and Physiology offers programs leading to the master of science and the doctor of philosophy in zoology and physiology. We also participate in graduate programs through the Neuroscience Program and the Program in Ecology.

Program Specific Admission Requirements

Admission is open to all students who meet the minimum requirements set forth in the admissions section of this *Catalog.*

Research and teaching assistantships are available for graduate students working toward the M.S. or Ph.D. degrees. Applicants can apply for this financial assistance at the time they apply for admission to graduate standing. Applications must be completed by February 15 in order to be considered for the following academic year.

Information on how to apply to the graduate program in the Department of Zoology and Physiology is detailed on our web site. Begin by identifying a faculty member in our department whose research interests are similar to yours. We will only consider an application if a faculty member has indicated a willingness to serve as the student's adviser. After

finding a potential adviser, e-mail a completed departmental application form, a copy of your curriculum vitae, copies of college transcripts, and recommendation letters to him or her. Our graduate admissions committee will review all applications and make decisions on admission based on the availability of funding and a commitment from a faculty member to serve as the adviser. Students recommended for admission will then be asked to fill out an application to the University of Wyoming and pay a non-refundable application fee.

Consult the website, www.uwyo.edu/zoology, to find out about faculty research.

Learning Outcomes for M.S. Students

- Comprehend and synthesize advanced knowledge in a specific area of biology.
- College and analyze data to address a research question.
- Summarize research findings and communicate them effectively in writing and orally.

Learning Outcomes for Doctoral Students

- Comprehend and synthesize advanced knowledge in a specific area of biology.
- Develop a research project which constitutes a substantial and original contribution to the field of study.
- Summarize research findings and communicate them effectively in writing and orally.

Major

Physiology, B.S.

Physiology is the science of how the body functions in health and disease. A degree in physiology provides excellent preparation for careers or graduate study in the health professions and biomedical research or related disciplines.

Additional Information

Physiology is the study of how animals work: how they breathe, feed, interact with their environment, and carry out many other activities and functions. Physiology is the

knowledge that the health sciences are built on and so is especially important for students who may be thinking of becoming medical practitioners, veterinarians or health care professionals.

All courses in the major must be completed with a grade of "C" or better.

University Studies Program Requirements

The University Studies Program 2015

- FYS- First Year - Seminar Credits: 3
- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

Zoology and Physiology Department Requirements

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses:

(MATH 1450 may substituted for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

  OR
- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4
- LIFE 3050 - Genetics Credits: 4

Two Additional CHEM Courses:

*MOLB 3610 may be used as a CHEM elective, but cannot also count as a PHSO Core Elective.

*CHEM 3550 may be used as a CHEM elective, but cannot also count as a PHSO Core Elective

- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3020 - Environmental Chemistry Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- CHEM 4050 - Solar Energy Conversion Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4400 - Biological Chemistry Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4 *

Physiology Core Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5

- ZOO 4100 - Scientific Communication Credits: 2

  (or approved C3 substitute) **AND**
- ZOO 4101 - Scientific Communication Lab Credits: 1

  (or approved C3 substitute)

  OR
- ZOO 4200 - Applied Principles of Science Communication Credits: 3

  (or approved USP C3 substitute)

Physiology Core Electives

A minimum of 10 of the 18 Physiology Core Elective credits must be exclusive to the PHSO major.

At the end of this program students will have a thorough knowledge of physiology, will be well prepared to enter health sciences or graduate education, and will have a range of skills attractive to employers.

Choose a Total of 18 Credits From:

**cannot count towards PHSO electives if used as a CHEM requirement in the Foundational Courses

- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3 **
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3038 - Exercise Psychology Credits: 3
- KIN 4042 - Advanced Biomechanics Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MICR 4001 - Epidemiology (Diseases in Population) Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4 **
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4001 - Epidemiology (Diseases in Population) Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4140 - Principles of Toxicology Credits: 3
- PATB 4400 - Immunology Credits: 4
- PATB 4710 - Medical Virology Credits: 3

- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- SOC 4160 - Sociology of Aging Credits: 3
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology Credits: 4
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ZOO 4736 - Mechanisms of Hormone Action Credits:
- ZOO 4737 - Mammalian Genomics Credits:
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- ZOO 5685 - Neurophysiology Credits: 3

Wildlife and Fisheries Biology and Management, B.S.

Provides a solid foundation in the theory and techniques involved in the management, conservation, and captive propagation of wildlife and fish populations. Includes both classroom and field experiences in a Rocky Mountain setting.

Additional Information

Wildlife and Fisheries Biology and Management is a professional degree designed to prepare students for state, federal, and other positions in resource management and conservation biology. The degree provides students with knowledge of the natural world, understanding of processes governing dynamics of wildlife and fish populations, as well as an appreciation of human-mediated effects on wildlife and fish populations. A student graduating with this degree will be familiar with the theory of resource management as well as with methods used to determine population status, habitat quality, and conservation. In Wyoming the abundance of wild animals and pristine habitats provide a unique natural

laboratory for studying the responses of wildlife and fish populations to changing climates and habitats.

A student graduating with a degree in WFBM will have comprehensive knowledge of wildlife and fisheries biology and management, will have earned a degree that is compatible with the requirements for professional certification with the American Fisheries Society or the Wildlife Society, and will have a range of knowledge and skills that are valuable to potential employers.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Zoology and Physiology Department Requirement

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

(MATH 1450 may substitute for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4 (may substitute MATH 2350)
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- LIFE 2100 - Intro Research and Analysis Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

- GEOL 1100 - Physical Geology Credits: 4

OR

- PHYS 1110 - General Physics I Credits: 4

OR

- SOIL 2010 - Introduction to Soil Science Credits: 4

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

Data Science course

Choose ONE course from the following:

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3

GIST 2150 - Intro to Programming in GIST

- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3

- ZOO 4530 - R Introduction for Wildlife Ecology Credits:

Core Required Courses

- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4970 - Internship in Wildlife Management Credits: 1
- ZOO 4100 - Scientific Communication Credits: 2 (or approved USP C3 substitute) **AND**
- ZOO 4101 - Scientific Communication Lab Credits: 1 (or approved USP C3 substitute)

OR

- ZOO 4200 - Applied Principles of Science Communication Credits: 3 **OR** (approved USP C3 substitute)

Options

Complete Terrestrial OR Aquatic Option

Aquatic Option

A minimum of 10 of the AQUATIC OPTION requirements listed below (ZOO 4330 and ZOO 4440 and ZOO 4430 and Restricted Electives) must be exclusive to the WFBM major.

REQUIRED COURSES

- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2

Restricted Electives

15 Credits of Electives from the following list:

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4300 - Wildlife Ecology and Management Credits: 5
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3

- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5
- SOC 3950 - Environmental Sociology Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- BOT 0000:5999
- ENR 0000:5999
- REWM 0000:5999

Terrestrial Option

A minimum of 10 of the TERRESTRIAL OPTION requirements listed below (BOT 4700 and ZOO 4300 and Restricted Electives) must be exclusive to the WFBM major.

REQUIRED COURSES

- BOT 4700 - Vegetation Ecology Credits: 4
- ZOO 4300 - Wildlife Ecology and Management Credits: 5

Restricted Electives

14 Credits of Electives from the following list:

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2
- ZOO 4440 - Limnology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- BOT 0000:5999
- ENR 0000:5999
- REWM 0000:5999

Zoology, B.S.

Zoology majors explore form, function, behavior, ecology, evolution and conservation of animals and hone analytical, writing, and research skills for diverse careers from graduate

school to state and federal agencies, consulting, and nonprofits.

Additional Information

Zoology is the study of animals: their structure, physiology, development and evolution. One of the enduring fascinations of zoology is that we can learn so much about ourselves and our environment by studying what our fellow creatures do.

At the end of this program students will have a comprehensive knowledge of zoology, will be well prepared for graduate education, and will be equipped to enter any of the many employment opportunities that are available.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Zoology and Physiology Department Requirements

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

(MATH 1450 may substitute for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- LIFE 2100 - Intro Research and Analysis Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5

OR

- CHEM 2300 - Introductory Organic Chemistry Credits: 4

OR

- CHEM 2420 - Organic Chemistry I Credits: 4

OR

- CHEM 2440 - Organic Chemistry II Credits: 4

OR

- CHEM 3020 - Environmental Chemistry Credits: 3

OR

- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5

OR

- CHEM 4400 - Biological Chemistry Credits: 3
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2 (or approved USP C3 substitute)

AND

- ZOO 4101 - Scientific Communication Lab Credits: 1 (or approved USP C3 substitute)

OR

- ZOO 4200 - Applied Principles of Science Communication Credits: 3 (or approved USP C3 substitute)

Advanced Zoology Course

* if more than one of the required courses is completed, additional courses can count towards the Zoology Approved Core Electives below.

One of:

- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4

Zoology Approved Core Electives

A minimum of 10 of 18 Zoology Approved Core Electives must be exclusive to the ZOOL major.

Choose a total of 18 credits from:

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4300 - Wildlife Ecology and Management Credits: 5
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2
- ZOO 4440 - Limnology Credits: 3
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- BOT 4235 - Marine Biology Credits: 3
- BOT 4550 - Computational Biology Credits: 4
- BOT 4664 - Special Topics in Evolution Credits: 1-4
- BOT 4790 - Special Topics in Ecology Credits: 1-3
- GEOG 3150
- GEOG 3480 - Environmental Change Credits: 3
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4682 - Insect Anatomy and Physiology Credits: 5
- ENTO 4678 - Aquatic Entomology Credits: 3
- ENTO 4684 - Classification of Insects Credits: 4
- PATB 4170 - Diseases of Wildlife Credits: 3
- PATB 4310
- PATB 4360
- PATB 4710 - Medical Virology Credits: 3

Minor

Human and Animal Physiology Minor

Physiology is the science of how the body functions in health and disease. A minor in physiology
provides additional background for students in a variety of majors.

Human and Animal Physiology minor - requirements

Requirements for the minor in human and animal physiology (AHPY) include a minimum of 18 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4

At Least One of These Three:

* if more than one of the three required courses is completed, additional courses can count towards Physiology Core elective courses requirement below.

- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4

Elective Courses

Physiology Core Electives. At least three courses from:

- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3038 - Exercise Psychology Credits: 3
- KIN 4042 - Advanced Biomechanics Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4140 - Principles of Toxicology Credits: 3
- PATB 4400 - Immunology Credits: 4
- PATB 4710 - Medical Virology Credits: 3
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- SOC 4160 - Sociology of Aging Credits: 3
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4

- ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology Credits: 4

OR

- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ZOO 4736 - Mechanisms of Hormone Action Credits:
- ZOO 4737 - Mammalian Genomics Credits:
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- ZOO 5685 - Neurophysiology Credits: 3

Neuroscience Minor

Neuroscience explores the nervous system structure and function. Electrical signaling of neurons provides the basis of our thoughts, perceptions, learning, movement, emotion, sleep-wakefulness, and behavior.

Additional Information

Minimum credit hours: 17. Courses counted towards one minor my NOT count towards a different minor. A grade of "C" or better is required in all coursework in the Neurosciences minor.

Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4280 - Introduction to Neuroscience Credits: 3

Elective Courses:

- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4

  (ZOO 4735 sections must have a neurosciences aspect, consult your advisor for help selecting appropriate sections).
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4295 - Neurodevelopment Credits: 3
- ZOO 5685 - Neurophysiology Credits: 3
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4

- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4

Wildlife Fisheries Biology Management Minor

Course include theory and techniques involved in the management, conservation, and captive propagation of wildlife and fish populations. Includes both classroom and field experiences in a Rocky Mountain setting.

Wildlife Fisheries Biology Management minor - requirements

Requirements for the minor in wildlife fisheries biology management (WFBM) include a minimum of 18 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

9 or 11 credit hours required from the following:

- LIFE 3400 - General Ecology Credits: 3
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

One (1) Course From:

- ZOO 4300 - Wildlife Ecology and Management Credits: 5

OR

- ZOO 4310 - Fisheries Management Credits: 3

Elective Courses

Select three (3) of the following courses, one of which must have a laboratory component:

- LIFE 3050 - Genetics Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3

- ZOO 4380 - Herpetology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3

Zoology Minor

Explore form, function, behavior, ecology, evolution and conservation of animals and hone analytical, writing, and research skills.

Zoology Minor - requirements

Requirements for the minor in zoology (ZOOL) include a minimum of 17 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Course

- LIFE 3050 - Genetics Credits: 4

Elective Courses

Select four (4) of the following courses, one of which must have a laboratory component:

- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- BOT 4235 - Marine Biology Credits: 3

Graduate

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

Overview

The School of Pharmacy and the Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources offer a dual degree program in which a student who meets the admission qualifications of both programs may simultaneously pursue a combined program of study leading to both the Bachelor of Science degree in Physiology (Physiology BS [PHSO]) and the Doctor of Pharmacy (PharmD) degree. The School of Pharmacy accepts up to ten (10) credit hours of courses in the Physiology BS program toward the credits of the PharmD degree. The College Agriculture, Life Sciences, and Natural Resources Department of Zoology/Physiology accepts up to eighteen (18) credit hours of required courses in the PharmD program toward the credits of the Physiology BS degree. The specific required courses accepted by each will be chosen from the applicable University Catalog. In total, up to twenty (28) credits can be shared across the degrees.

Students will typically spend years one to three in the Department of Zoology and Physiology and years four through seven (4-7) in the School of Pharmacy. Students desiring to complete the dual program in a different sequence should consult with, and seek approval from each program, keeping in mind the program requirements.

Admission to the Dual Program

Student who wish to declare the dual Physiology BS-PharmD program start their freshman year as Physiology or Pre-

pharmacy majors and declare as sophomores provided they are on-track to meet the PharmD admissions standards.

Early Assurance: Students in the Dual Degree Program with sophomore standing and a college GPA of 3.3 will be provisionally accepted into the PharmD program, pending a successful interview.

Basic Provisions of the Dual Degree Offering

1. The School of Pharmacy will accept up to ten (10) credit hours of coursework from the Physiology BS program, provided the student earns a grade of "C" or better. The exact courses designated for credit toward the PharmD will be jointly determined from the applicable catalog by an approving authority in both programs.

2. The Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources will accept up to eighteen (18) credit hours coursework from the PharmD, provided the student earns a grade of "C" or better. The exact PharmD courses designated for credit toward the Physiology BS degree will be jointly determined from the applicable catalog by an approving authority in both programs.

3. Separate grade point averages will be calculated for each program.

4. Students in the dual program must meet all other requirements for the PharmD and Physiology BS programs such as co-curricular programming, experiential learning, and other requirements.

5. The PharmD degree and the Physiology BS degree will be awarded when all the degree program requirements for each respective program have been met.

6. Both the School of Pharmacy and the Physiology BS program will include information on their websites about the dual degree and will strive to promote the program as part of their recruitment efforts.

7. The Physiology BS degree will be the primary degree for

years 1-3, then the PharmD degree will be the primary degree once the students matriculate into pharmacy school.

Dual Physiology BS/PharmD Degree

I. ADMISSION
a. Interested students should declare the Dual Physiology BS/PharmD Degree track during years 1-3 of the Physiology

II. GRADUATION
a. Students in the dual degree program will complete all graduation requirements for both degree programs.

III. DEGREE CONFERRAL
a. Two separate degrees will be posted and may include a note at the top of either transcript indicating the number of Physiology hours or PharmD hours accepted as electives toward either degree.
b. This will be the only indication on the student's transcript that they were pursuing a dual Physiology BS/PharmD degree. This note may be necessary to account for the shared credits across degrees and comply with the minimum credits required by the University.

Changes to Curriculum

This agreement will apply to the degree requirements for the full-time, on-campus Physiology BS degree and Doctor of Pharmacy degree outlined in the applicable University of Wyoming Catalog. Issues related to individual students or changes in either degree program requirements will be jointly resolved by the School of Pharmacy and the Department of Zoology and Physiology.

Curriculum Information

Please visit the Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program Curriculum page for information on degree requirements.

Zoology and Physiology, M.S.

Advanced-degree students in Zoo/Phys experience collaborative, interdisciplinary approaches to basic and applied questions. Work spans molecules to ecosystems, with training in fields including physiology, ecology, evolution, fisheries, and wildlife.

Plan A (Thesis)

Includes 26 hours of coursework and 4 hours of thesis research.

Applicants should have at least 20 semester hours of undergraduate work in zoology, physiology, or other areas of the biosciences and have completed introductory courses in mathematics, chemistry, and in at least one other natural or physical science. Early in the second semester the student must file a program of study with the university and have a graduate committee appointed. Plan A candidates shall orally defend the thesis before the graduate committee.

All M.S. candidates will be required to complete credit in two graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

After two semesters in the department, a Plan A master's candidate may request permission from the department's graduate advisory board to proceed directly to the Ph.D. degree; however, such a bypass is granted only by the department head after considering recommendations from the graduate advisory board.

Zoology and physiology may be used as a field by a candidate working for the interdisciplinary master of science in natural science in the College of Arts and Sciences and the College of Education.

Plan B (Non-Thesis)

Includes 30 hours of coursework.

The program for the Plan B is established by the student and a faculty adviser and must be approved by the department head during the student's second semester or summer session.

The graduate committee will require the candidate to take a written examination. An oral examination may also be required. The final examination is comprehensive, covering all areas of zoology, but emphasizing one major area.

Zoology and Physiology, Ph.D.

Advanced-degree students in Zoo/Phys experience collaborative, interdisciplinary approaches to basic and applied questions. Work spans molecules to ecosystems, with training in fields including physiology, ecology, evolution, fisheries, and wildlife.

Additional Information

This is a 72 hour program.

A Ph.D. applicant must have 20 hours of undergraduate work in zoology, physiology, or other areas of biology and also have completed substantial undergraduate work in other sciences. Under exceptional circumstances, a student with an undergraduate major in a scientific discipline other than biology may be admitted. After the Ph.D. student has completed two semesters of graduate work, s/he must be approved for continued work toward the doctorate by the graduate advisory board. This board can reconsider a candidate thereafter if it so desires.

A graduate committee shall be appointed for the individual student no later than the third semester. After consultation with the student, this committee will prescribe special requirements (courses, minors, research tools, etc.) that must be fulfilled. At this time, the graduate committee shall consult with the candidate on the proposed research and shall identify the subject matter areas to be included in the preliminary examination. The preliminary examination will consist of a written research proposal, its oral defense, and a written and oral preliminary examination. When training outside zoology and physiology is specified by the committee, certification of satisfactory completion of the requirement will be made by the appropriate department.

In addition to the general university requirements for the Ph.D. degree, the department requires the following:

The coursework program should include work in a discipline outside the department, generally in the sense of a minor, to be identified in consultation with the graduate committee.

The preliminary examination consisting of written and oral portions should be taken no later than midterm of the fourth semester in residence. The graduate committee will certify satisfactory performance for the preliminary examination.

The dissertation must be received by each member of the graduate committee three weeks before the final dissertation seminar. As oral defense of the dissertation, the candidate will deliver a formal 50 minute seminar on original research from the dissertation. The seminar will be followed by an examination by the graduate committee.

Some time during their degree program, all Ph.D. candidates will be required to complete credit in three graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

All candidates for the Ph.D. degree shall be required to teach for one semester during their program.

The dissertation may be written in a format suitable for publication in a journal and the usual extensive literature review, description of study sites, technical details, raw data, supporting figures, charts, and photographs should be included in a well-organized appendix. (See also format requirements by the university.)

Microbiology Program: Interdepartmental major

5004 Agriculture Building, (307) 766-3139
FAX: (307) 766-3875
E-mail: microbiology@uwyo.edu
Program Director: Interdepartmental Microbiology Steering Committee

Microbiology is the study of life forms too small to be observed without the aid of magnification. Major groups of microbes include the bacteria, fungi (yeasts and molds), protozoa, and algae, as well as the viruses. In addition, related disciplines such as immunology and molecular biology are included because of their historical origins within microbiology.

As such, the science of microbiology is divided into numerous subspecialty areas that reflect not only the individual groups of microbes (e.g., bacteriology, virology, mycology, etc.), but also their significance in applied areas (e.g., medical microbiology/infectious diseases, microbial ecology, food microbiology, industrial microbiology, biotechnology, etc.) or in areas of basic science (e.g., molecular genetics). Throughout its history, microbiology has played a key role in the development of our understanding of basic biochemical and genetic processes, control of infectious diseases, production of increased and improved food supplies, and the production of numerous commercial products. With the development of molecular techniques to construct genetically engineered microbes, microbiologists will continue to make expanding contributions in these and other areas.

Because microbiology is a diverse science, individuals trained as microbiologists find exciting career opportunities in many areas of the basic and applied sciences. Typically, microbiologists are employed in five major sectors: private industry; clinical laboratories; government agencies; universities and various other settings such as water treatment, food production/inspection facilities, and other public health-related areas. Recent manpower assessment studies at both the national and regional levels have provided evidence for a continuing and expanding need for microbiologists such that successful undergraduate students

completing this program may look forward to exciting careers. In addition, undergraduates trained in the microbiological sciences are well prepared for competitive application to graduate school programs and professional programs in human or veterinary medicine, optometry or dentistry.

The Bachelor of Science degree program in microbiology is organized as an interdepartmental major involving the collaborative teaching, advising, and research expertise of microbiology faculty from the College of Agriculture, Life Sciences and Natural Resources, Haub School of Environment and Natural Resources, and College of Health Sciences. The program is administered by a Program Director and the Interdepartmental Microbiology Steering Committee, representing each of the participating colleges. Students obtain their degree in the College of Agriculture, Life Sciences and Natural Resources. Additional information about the microbiology program may be obtained at the following website address and by contacting the Program Director or one of the members of the Interdepartmental Microbiology Steering Committee listed below.

www.uwyo.edu/uwag/departments/microbiology.html

- BERIT BANGOURA, Veterinary Sciences
- BLEDAR BISHA, Animal Sciences
- GRANT BOWMAN, Molecular Biology
- ELIZABETH CASE, Veterinary Sciences
- BRIDGET DECKER, Molecular Biology
- JASON GIGLEY, Molecular Biology
- MARK GOMELSKY, Molecular Biology
- MYRNA MILLER, Veterinary Sciences
- EUNSOOK PARK, Molecular Biology
- KERRY SONDGEROTH, Veterinary Sciences
- HOLLY STEINKRAUS, Molecular Biology
- LINDA VAN DIEPEN, Ecosystem Science and Management
- DANIEL WALL, Molecular Biology
- RACHEL WATSON, Haub School of Environment and Natural Resources
- JOHN WILLFORD, WWAMI Medical Education Program
- KASSANDRA WILLINGHAM, Molecular Biology

Major

Microbiology, B.S.

The Interdepartmental Microbiology B.S. degree includes basic science, microbiology

core, and elective courses selected from the main areas of medical or environmental microbiology, or molecular and cell biology.

Degree Requirements

This degree requires 121 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

The curriculum is designed to prepare graduates for the future by combining a firm foundation in the basic sciences with a central core of microbiology classes, followed by the opportunity for students to specialize in areas of microbiology suiting their individual interests via the selection of electives.

Prior to graduation, microbiology majors must complete the basic requirements and all microbiology core course requirements as listed below. Finally, to assure breadth of exposure in microbiology, students must complete 6 semester hours of microbiology electives. The microbiology curriculum is organized to provide students with the maximum flexibility in meeting their university studies program requirements.

Students pursuing the B.S. degree in microbiology who wish to pursue a dual major in both microbiology and molecular

biology must satisfy the basic science/math and core/elective requirements in microbiology as well as those specified for the B.S. degree in molecular biology PLUS an additional 9 credits of electives in microbiology and/or molecular biology at the 4000/5000 level.

Course Requirements

Basic Sciences and Quantitative Reasoning: 40-42 Hours

- MATH 1450 - Algebra and Trigonometry Credits: 5

  OR
- MATH 2200 - Calculus I Credits: 4

  OR
- MATH 1400 - College Algebra Credits: 3

  AND
- MATH 1405 - Trigonometry Credits: 3

- STAT 2050 - Fundamentals of Statistics Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

  OR
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

MICR Core Requirement: 37 Hours

- MICR 2021 - General Microbiology Credits: 4

  OR
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MICR 2240 - Medical Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4

- PATB 2220 - Pathogenic Microbiology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PATB 4400 - Immunology Credits: 4

  OR
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3

- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- PATB 4710 - Medical Virology Credits: 3
- MICR 4321 - Microbiology Capstone Credits: 4

Take 2 credits total of any combination of the following 1-credit seminar courses:

- PATB 4150 - Seminar Credits: 1

OR

- MOLB 4050 - Student Seminar: Topics in ___ Credits: 1

OR

- MOLB 4051 - Departmental Seminar Credits: 1

OR

- MOLB 4052 - Summer Seminar Credits: 1

MICR Elective Requirement: 6 Hours

In addition to completing the required microbiology courses listed above, students must complete 6 hours of microbiology electives from any of the following lists.

Medical Microbiology

- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4001 - Epidemiology (Diseases in Population) Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4170 - Diseases of Wildlife Credits: 3
- MICR 4200 - Diagnostic Bacteriology Credits: 1
- PATB 4220 - Molecular Mechanisms of Bacterial Pathogenesis Credits: 3
- PATB 4240 - Disease Ecology Credits: 3
- MICR 4360 - Medical Entomology and Parasitology Credits: 4
- PATB 4500 - Veterinary Parasitology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3

Molecular and Cell Biology

- LIFE 3600 - Cell Biology Credits: 4
- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4260 - Quantitative Microscopy Credits: 1

- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Environmental and Applied Microbiology

- MICR 3021 - Eukaryotic Microbes Credits: 3
- MICR 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MOLB 4540 - Microbial Diversity and Ecology Credits: 4

OR

- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

- MICR 4140 - Soil Microbiology Credits: 4
- BOT 4200 - Plant-Microbe Interactions Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- FDSC 4090 - Food Microbiology Credits: 3
- FDSC 4100 - Laboratory Techniques in Food Microbiology Credits: 1

Life Sciences Program

Life Sciences Program

107 Aven Nelson Building

Program Director: Jonathan Prather

Associate Director: Christopher North

The Life Sciences Program consists of all LIFE prefix courses. These courses support life science majors and non-life science majors across campus. The foundational curriculum provides science majors with both breadth and depth in the basic life sciences, and non-science majors with key concepts in biology as well as an understanding of the connections between science and society. Courses familiarize students with the diversity of life and expand upon the fields of cell and molecular biology, genetics, ecology, and evolution.

Courses within the curriculum emphasize four fundamental goals at a level appropriate for each course:

1. Acquisition, Application and Synthesis of Knowledge

2. Communication Skills

3. Critical Thinking and Problem Solving

4. Research Skills

Professor:

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Professor of Zoology and Physiology 2021, 2009.

Other Programs

Life Sciences

Life Sciences Program

107 Aven Nelson Building, 766-4158 Web site: www.uwyo.edu/lifescience

Program Director: Jonathan Prather

The Life Sciences Program consists of all LIFE prefix courses. These courses support a wide range of life science majors and several non-life science majors across campus. The number of LIFE courses taken by students in each major is determined by the departments that offer the majors. The curriculum intends to provide science majors with both breadth and depth in the basic life sciences, and nonscience majors with exposure to key concepts in biology and an understanding of the connections between science and society. The program courses also expose students to the fields of cell and molecular biology, genetics, ecology, and evolution, and they familiarize students with the diversity of life on the planet. Courses within the curriculum address four fundamental goals at a level appropriate for each course: 1. Acquisition, Application and Synthesis of Knowledge 2.

Communication Skills 3. Critical Thinking and Problem Solving 4. Research Skills The Life Sciences courses listed below were previously offered under the BIOL prefix. All courses listed below are now offered through the LIFE prefix.

Ranch Management & Agricultural Leadership

The School of Culture, Gender, and Social Justice

Ross Hall, Room 224

(307) 766-3122

Web site: **www.uwyo.edu/scgsj**

School Head: **Stephen Dillon**

SCGSJ Faculty

Professors:

ULRICH ADELT, M.A. University of Hamburg, Germany 2000; Ph.D. University of Iowa 2007; Associate Professor of American Studies 2015, 2009.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Professor of Law 2008, 2002.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

FRIEDA E. KNOBLOCH, American Studies; School of Culture, Gender and Social Justice; Creative Writing

TRISHA MARTINEZ, B.A. University of Wyoming 2011; M.A. University of New Mexico 2014; Ph.D. University of New Mexico 2019.

TRACEY OWENS PATTON, B.A. Colorado State University 1993; M.A. 1996; Ph.D. University of Utah 2000; Professor of Communication and Journalism 2012, 2003.

MARGARITA PIGNATARO, B.A. Florida State University; M.A. Arizona State University, Ph.D.; Visiting Assistant Professor of Latina/o Studies 2018.

Associate Professor:

LILIA SOTO, B.A. University of California - San Diego 2000; M.A. University of California - Berkeley 2003; Ph.D. 2008; Associate Professor of American Studies and Latina/o Studies 2017, 2010.

SAMANTHA L. VANDERMEADE, B.A., Appalachian State University, 2009; M.A., North Carolina State University, 2015; Ph.D., Arizona State University, 2020; Visiting Assistant Professor of Gender and Women's Studies 2020.

Assistant Professor:

JESSICA F. NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of Native American and Indigenous Studies 2019.

Associate Lecturer:

ALISON QUAGGIN HARKIN, B.A. Trinity College at the University of Toronto 1981; M.A. Athabasca University 2010; Assistant Lecturer of Gender and Women's Studies 2019.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 2002.

ROBYN LOPEZ, A.A. Central Wyoming College 2004; B.A. University of Wyoming 2007; M.A. University of Hawai'i at Mānoa; Assistant Lecturer of Native American and Indigenous Studies 2019.

Lecturers:

JASCHA HERDT, B.A. University of Wyoming; M.A. 2011.

ERIC D. JOHNSON, B.A. University of Alabama 2003; MA, University of Iowa 2009; Ph.D 2021.

CHAD D. ROBINSON, B.S. Northewestern University 1992; MA, City University of New York 2006; M.S. Mercy College 2008.

Senior Research Scientist:

ANDREA GRAHAM, American Studies; School of Culture, Gender and Social Justice

Professors Emeriti:

Cathy Connoly, Colleen Denney, John Dorst, Janice Harris, Susan McKay, Eric Sandeen

Adjunct Faculty:

(see department section following name for academic credentials)

African American and Diaspora Studies

Undergraduate Studies

The population of Black America has nearly doubled in Wyoming since the year 2000. As the population becomes more diverse it is important to provide students with a background in multicultural relations so that they are prepared for the global workforce. We intend to provide students with the necessary knowledge to prepare them to participate in an increasingly interconnected world. Therefore, African American and Diaspora Studies offers a bachelor of arts (B.A.) and an undergraduate minor in African American and Diaspora Studies.

Students may access a copy of the undergraduate major and minor check sheets at www.uwyo.edu/aads/major-minor/index.html.

At present, no program for graduate degrees in African American and Diaspora Studies is offered; however, some courses may be counted at the graduate level.

American Studies

American Studies explores American cultural experience past and present, through a wide range of approaches to American lives, places, arts, knowledges, communities, institutions, histories, and ideas. American Studies is an integrative field that comes from and adds to the context of our cultural lives in the U.S. and the U.S. in the world. American Studies frames present concerns with engagement with the past; expects us to engage people's experiences in the context of a diversity of experiences; and invites us to understand our own commitments and interests as valuable contributors to American cultural understanding. American Studies as a field depends on and adds to insights of scholars, artists, and scientists from virtually any field of expertise.

The American Studies program offers undergraduate B.A. and graduate M.A. degrees in American Studies, as well as courses of general interest to students in any degree.

Our program places special emphasis on studying American cultures through field experiences and internships: students apply academic knowledge and develop professional skills in community and non-profit organizations, historic preservation efforts and organizations, historic sites, museums and collections, among many possibilities. Every internship is developed in close consultation between the students and our Internship Coordinator, and frequently stems from a student's general idea about where or with whom they'd like to work, in Laramie or Wyoming, in other parts of the U.S., or sometimes abroad. Our program also highlights international perspectives, as well as the transnational context of American impacts and experiences, in course work and exchanges available to American Studies students.

American Studies puts people and their plans together building career goals in K-12 education, law, or business, work in community organizations and public institutions, or further graduate-level study.

Native American and Indigenous Studies

The Native American and Indigenous Studies offers an academic major at the undergraduate level and a minor at both the undergraduate and graduate level. This interdepartmental course of study examines Native North American cultural and social life, as well as Indigenous cultural and social life globally, including economic, political, and educational systems. Historical and contemporary perspectives of American Indian and global Indigenous experiences are included in this program.

Students may choose a NAIS studies minor to complement a major field of study. Related disciplines include American studies, anthropology, art, ethnic studies, geography, history, law, music, philosophy, political science, and sociology. A minor in Native American and Indigenous Studies provides excellent preparation for teachers, researchers, social workers, healthcare providers, resource managers, economic developers, and legal practitioners.

Gender and Women's Studies

The Gender and Women's Studies Program offers an interdisciplinary course of study that examines the relevance of sex, gender and sexuality in history, societies, and cultures. Students may earn a major, minor, or graduate minor in Gender and Women's Studies, or a minor or graduate minor in Queer Studies.

Program Learning Objectives

Students graduating with a degree in Gender and Women's Studies will have skills to apply in a variety of settings indicated by their ability to:

- Engage in intersectional, interdisciplinary feminist analysis.
- Analyze socio-historical and contemporary power dynamics underpinning group relations, social institutions, and systems of representation.
- Situate their analyses within various place-based contexts, including the rural, local, community, transnational, and global.
- Understand and articulate the history, strategies, and goals of interconnected movements for social justice.

- Demonstrate mastery of critical thinking skills necessary to succeed in diverse, 21st century work forces and communities.

NOTE: Gender & Women's Studies recently changed all course prefixes to GWST (from WMST). All former WMST courses will count toward Gender & Women's Studies degree programs.

Latina/o Studies

Learning Outcomes

Latina/o Studies courses emphasize perspectives that are historical and contemporary, theoretical and practical, as well as critical and aesthetic. These perspectives help to develop an understanding of oppression and resistance, at the individual, institutional, and ideological levels.

Upon completion of the University of Wyoming Latina/o Studies minor curriculum, students will have an awareness and appreciation for the Latina/o experience. Particularly as the Latina/o experience is expressed in the following concepts and principles of organic insight, relational awareness, historical perspective, power for social change, intersectionality, and aesthetics.

- *Organic Insight* - The development of a contextual framework for understanding one's own and others' experiences in relation to the Latina/o experience.
- *Relational Awareness* - The development of a theoretical framework for understanding how institutional social structures impact individuals, families, and communities, and in turn, how individuals, families, and communities impact social structures through resistance, social agency, and change.
- *Historical Perspective* - The development of a critical historical viewpoint for understanding how struggles around social, economic, and political forces have shaped the traditional and contemporary Latina/o Diaspora.
- *Power for Social Change* - The development of a critical consciousness, which is necessary for a social praxis that combats oppressive racist ideologies and social structures that perpetuate individual and institutional inequalities.

- *Intersectionality* - Gaining an awareness of the intersection of race, ethnicity, class, gender, and sexual orientation as it plays out organically, relationally, historically, and politically.
- *Latina/o Aesthetics* - The development of an appreciation and awareness of the aesthetics evident in Latina/o art, music, theatre, literature, and other artistic expressive forms and styles.

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. Two of those courses (6 hours) must include the required foundation courses, and the remaining courses (12 hours) can be selected from the other areas of studies listed below.

Major

African American and Diaspora Studies, B.A.

African American and Diaspora Studies (AADS) offers undergraduates an opportunity to engage in an interdisciplinary examination of the history, culture, and life of African Americans and the African diaspora from ancient times to the present day.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 creits)

Major Requirements

The B.A. in African American and Diaspora Studies consists of 35 credit hours:

Core Courses

15 credit hours of core course requirements:

- AAST 1000 - Introduction to African American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- AAST 2360 - African American History Credits: 3
- AAST 3130 - Global Impact of African Cultures Credits: 3
- AAST 4975 - Independent Research Credits: 1-3

Lower Division Course

3 or 6 credit hours of a lower division (1000- or 2000- level) AAST course, excluding core courses. Chose one OR two of the following:

- AAST 1030 - Social Justice in the 21st Century Credits: 3

or

- AAST 1101 - First-Year Seminar Credits: 3

or

- AAST 2350 - Introduction to African American Literature Credits: 3

or

- AAST 2360 - African American History Credits: 3

or

- AAST 2370 - Blues and African American Lit Credits: 3

or

- AAST 2450 - Traditional African Religion Credits: 3

or

- AAST 2490 - Topics: Credits: 1-3 or 3

Upper Division Courses

6 or 9 credit hours of upper division (3000- or 4000-level) AAST courses. Choose two OR three of the following:

- AAST 3000 - African American Studies in Music Credits: 3

or

- AAST 3010 - The African American Aesthetic Credits: 3

or

- AAST 3130 - Global Impact of African Cultures Credits: 3

or

- AAST 3260 - African Spirits in the New World Credits: 3

or

- AAST 3670 - African Diaspora Credits: 3

or

- AAST 3933 - African Philosophy Credits: 3

or

- AAST 4000 - Black Freedom Movement, AAST 1955-Present Credits: 3

or

- AAST 4020 - The Black West Credits: 3

or

- AAST 4050 - Development, Africa, and Culture Credits: 3

or

- AAST 4100 - African American Religious Culture Credits: 3

or

- AAST 4160 - African American Rhetoric Credits: 3

or

- AAST 4233 - Race, Gender, Ethnicity in the Media Credits: 3

or

- AAST 4250 - The Harlem Renaissance Credits: 3

or

- AAST 4260 - Rhetoric and Social Justice Credits: 3

or

- AAST 4450 - African American Novel Credits: 3

or

- AAST 4455 - Slavery and Freedom Credits: 1-4

or

- AAST 4675 - USWomen of Color Credits: 3

or

- AAST 4970 - Internship in AAST Credits: 1-12

or

- AAST 4975 - Independent Research Credits: 1-3

or

- AAST 4990 - Topics: Credits: 3

Foreign Language

8 credit hours of a single foreign language. The courses below list some, but not all, possible options:

- ARBC 1010 - First Year Arabic I Credits: 4
  and
- ARBC 1020 - First Year Arabic II Credits: 4
  or
- FREN 1010 - First Year French I Credits: 4
  and
- FREN 1020 - First Year French II Credits: 4
  or
- GERM 1010 - First Year German I Credits: 4
  and
- GERM 1020 - First Year German II Credits: 4
  or
- JAPN 1010 - First Year Japanese I Credits: 4
  and
- JAPN 1020 - First Year Japanese II Credits: 4
  or
- LATN 1010 - First Year Latin I Credits: 4
  and
- LATN 1020 - First Year Latin II Credits: 4
  or
- SPAN 1010 - First Year Spanish I Credits: 4
  and
- SPAN 1020 - First Year Spanish II Credits: 4

Additional Requirements

Grade Requirements

AAST classes applied to AAST degrees must be passed with a grade of C or better.

Additional Information

In order to provide a broader range of relevant and enriching courses, in any given year the program in AAST offers topics courses and courses cross-listed with other majors and departments.

American Studies, B.A.

Explore cultural experiences past and present through interdisciplinary study of American lives, communities, and ideas. Writing, critical thinking, and internship opportunities prepare you for careers in education, law, business, community non-profits, public institutions, or graduate study. Flexible 2nd major for any field and for transfer students.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

College of Arts and Sciences Core

D - Diversity Credits: 3

G - Global Credits: 3

Curriculum

Through the following curriculum, students develop individual programs of study, with their advisers, to understand and engage American cultures.

Students pursuing Program Honors should also write an undergraduate thesis. Contact the Program Director for more details.

Foundation (12 credit hours)

- AMST 2010 - Introduction to American Studies (3 credit hours)
- One course at the 1000- or 2000-level in an interdisciplinary field, including American History, or from departments and programs such as AADS, ENR, INST, GWST, LTST, NAIS, RELI, or appropriate courses transferred from other institutions, to be named in the

program of study in consultation with an American Studies advisor. (3 credit hours)

- Two courses at any level outside AMST, from programs in The School of Culture, Gender, and Social Justice or appropriate substitutes in consultation with an American Studies advisor. (6 credit hours)

Concentration (27 credit hours)

Core (9 credit hours)

Each student must take three AMST courses at the 3000-4000 level, excluding the senior seminar. These seminars are designed to maintain an interdisciplinary view of American culture and to foster an American Studies community. (9 credit hours)

Theme (18 credit hours)

An American Studies theme is devised, in consultation with the student's adviser. Typical themes include: American diversity, environment and society, material culture and everyday life, visual culture and media, American cultural history, American institutions and public culture, the United States in international perspective. The theme must include a minimum of 6 credit hours and a maximum of 9 credit hours in a single discipline. Up to 3 credits can be granted for courses at the 1000-2000 level. (18 credit hours)

Capstone (6 Credits)

As part of the 6 credit hours of senior capstone requirements, each student must complete 3 credit hours of Senior Seminar. The additional 3 credit hours can be through either Independent Study or Internship.

- AMST 4985 - Senior Seminar Credits: 3
  AND
- AMST 4010 - Independent Study Credits: 1-3
  OR
- AMST 4970 - Internship Credits: 1-3

Additional Information

Undergraduate Major

The American Studies B.A. frames and develops each student's individual interests, and allows students to include courses from any program and department that sustain a

student's engagement with their particular emphasis. Individual programs of study are as varied as our students.

We value each student as a person, and understand that an education is much more than a list of courses. Our advising is central in supporting each student's path and success through the major and beyond the degree.

Examples of concentrations that draw on courses outside American Studies - interests which we then integrate in our independent studies, internships, and the senior seminar - include sports studies, popular music history, comparative ethnic studies, marketing, military history, sustainability, disability advocacy, museum studies, philosophy of science, environmental studies, public health and social justice, and the U.S. in international perspectives. Each student develops a concentration of study with their American Studies advisor with ample room to combine courses and interests into a coherent undergraduate education.

The American Studies B.A. can be an attractive second major for students in any UW degree program where cultural context enriches and expands work in their professional or scholarly field. The flexible nature of our B.A. allows us to work effectively with students changing majors at any point in their undergraduate experience as well as transfer students.

Program Learning Outcomes

Students graduating with a B.A. in American Studies integrate study from several fields with their study in American Studies courses, in individual programs of study. The American Studies B.A. prepares students to enter graduate and professional programs, enter education certification programs, and work in community organizations and other public professional settings. Coursework in American Studies prepares students to:

- Interpret American experiences and creative expressions by applying appropriate approaches to words, narratives, images, material objects, communities, built environments, cross-cultural comparison, continuities and discontinuities with the past in a range of American cultural settings.
- Understand the processes of diversity experience including their own, through study of identity formation, performance of identity, stereotyping, contact, memory, and national identity.
- Demonstrate critical analysis, interpretation, or insight, through effective communication primarily in writing but also in speaking (when appropriate, performance or display may embody these as well), as demonstrated in analytically coherent interpretive writing, authoritative, informed oral presentation, and well-documented, visually effective performance or display (where appropriate).

- Apply American Studies methods field-based courses and/or internships, through use of Studies approaches and competencies in non-classroom settings, as demonstrated in field course or internship evaluations and students' final reports.

Internship

The internship experience is essential for students specializing in public sector American studies. The American Studies program has an active program of scholarship-supported internships that can place students in work environments in Wyoming, other parts of the U.S., or in selected foreign countries.

Language

Because American Studies is both an international field with scholars all over the world, and the U.S. has transnational significance, **we strongly encourage students to take 2 years of language study** to achieve meaningful access to skills as readers, scholars, and travelers, and consider participating in an international exchange. Some languages currently in demand by American Studies students include Spanish, Arabic, and Japanese.

Gender and Women's Studies, B.A.

Provides foundational knowledge in historical and contemporary issues related to sex, gender, and sexuality. Upon completion, students will be able to apply intersectional feminist and gender theories to interdisciplinary research and practice.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 credits)

Requirements

The GWST major requires 30 credit hours of GWST courses, including 9 credits of core courses and 21 credits of elective courses.

Please note, curriculum requirements reflect updates effective Fall 2022, so any courses completed under the previous requirements will still count. Details are listed below.

Introductory Core: 3 Credits

Complete ONE course from the following:

- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3

Note: If taken prior to Fall 2022, GWST 1900, Women & Leadership can satisfy this requirement.

Interdisciplinary Theory Core: 6 Credits

Complete TWO courses from the following:

Core course required for all majors:

- GWST 3600 - Gender, Race, Sex & Social Systems Credits: 3
- Note: If taken prior to Fall 2022, these courses may satisfy this requirement: GWST 3710, Gender & Humanities; GWST 2500, Gender & Society

Choose ONE of the following:

- GWST 4700 - Feminist Theories Credits: 3
- GWST 4430 - Queer Theory Credits: 3

Electives: 21 Credits

Complete SEVEN courses or 21 credit hours from among the following:

- GWST 1030 - Social Justice in the 21st Century Credits: 3
- GWST 2070 - Gender and Religion Credits: 3

- GWST 2450 - Topics in Gender & Women's Studies Credits: 1-4
- GWST 2050 - Women and Leadership Credits: 3
- GWST 2389 - History of Women in the American West Credits: 3
- GWST 2400 - Gender and Disability Credits: 3

- GWST 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3200 - Perspectives in Chicana Studies Credits: 3
- GWST 3300 - Psychology of Gender Credits: 3
- GWST 3400 - Popular Music and Sexualities Credits: 3
- GWST 3710 - Gender and Humanities Credits: 3
- GWST 3800 - Chicanas/os in Contemporary Society Credits: 3

- GWST 4065 - Black American Rhetorics Credits:
- GWST 4066 - Rhetorics of Social Justice Credits:
- GWST 4067 - Race, Gender, Media, and Rhetoric Credits: 3
- GWST 4200 - Gender and Race in the Economy Credits: 3
- GWST 4300 - The Politics of Sexuality Credits: 3
- GWST 4233 - Race, Gender, Ethnicity in the Media Credits: 3
- GWST 4335 - Women and Islam Credits: 3
- GWST 4360 - American Indian Women Credits: 3
- GWST 4440 - Queer Life Through Memoir Credits: 3
- GWST 4450 - Ecofeminism Credits: 3
- GWST 4500 - Topics in Gender & Women's Studies Credits: 1-4
- GWST 4540 - Gender and Crime Credits: 3
- GWST 4610 - Gender, Race & Rural Spaces Credits:
- GWST 4630 - Gender and Politics Credits: 3
- GWST 4650 - Women, Gender & Migration Credits: 3
- GWST 4675 - USWomen of Color Credits: 3
- GWST 4780 - History of Women Artists Credits: 3

- GWST 4960 - Women's Bodies, Women's Minds Credits: 3
- GWST 4965 - Senior Honors Project Credits: 3
- GWST 4970 - Internship Credits: 3
- GWST 4975 - Independent Studies Credits: 1-4

Grading & Honors

Grading Requirements

All GWST core courses and at least 15 credit hous of GWST electives must be completed with a "C" or better.

To be eligible for internships, students must have a minimum GPA of 3.300.

Honors in Gender & Women's Studies

Honors in Gender and Women's Studies recognizes academically ambitious students who have excelled in their undergraduate careers, and who are ready for graduate school and/or employment in the public or private spheres. Requirements include an overall minimum GPA of 3.500 and the completion of GWST 4965, Senior Honors Project.

Honors in GWST also requires the completion of 3 semesters of foreign language or sign language, or a concentration in quantitative analysis and research methods, including statistics.

Students in UW Honors Program, McNair Scholars Program, or other departments that require completion of an independent research project may dovetail their honors work in GWST with those programs.

Additional Information

Students in GWST are encouraged to work with a faculty advisor to develop an individualized plan of study. Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), for more information.

Native American and Indigenous Studies, B.A.

The curriculum for the 30-hour Bachelor of Arts degree in Native American and Indigenous Studies will encourage students to understand and appreciate the roles of history,

culture, and politics in the development of tribal world views.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 credits)

Major Requirements

Foundation Courses

Foundation Classes 9 Hours Required. Choose from the following:

- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- NAIS 2210 - North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3

NAIS & Crosslisted Courses

Choose seven (7), for a total of 21 credit hours, courses from the following:

- NAIS 1010 - Beginning Indigenous Language Credits: 4
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 2010 - Intermediate Indigenous Language Credits: 4
- NAIS 2060 - Topics Credits: 1-4
- NAIS 2340 - Native American Culture and Literature Credits: 3
- NAIS 2345 - American Indians in Hollywood Film Credits: 3
- NAIS 3000 - Plains Culture and History Credits: 3
- NAIS 3010 - Proficient Indigenous Language Credits: 4
- NAIS 3100 - Tribal Literatures of the Great Plains Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 4000 - Indians of Wyoming Credits: 3
- NAIS 4010 - Advanced Indigenous Language Credits: 4
- NAIS 4020 - Internship Credits: 1-12
- NAIS 4100 - Tribal Government Credits: 3
- NAIS 4110 - Educational Foundations in American Indian Education Credits: 3
- NAIS 4200 - Indigenous Communities Abroad: International Travel Credits: 4
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- NAIS 4460 - American Indian Literature Credits: 3
- NAIS 4466 - American Indian Ethnohistory Credits: 3
- NAIS 4740 - Native American Languages and Cultures Credits: 3
- NAIS 4975 - Independent Study Credits: 1-4
- NAIS 4990 - Special Topics Credits: 1-4

Additional Requirements

Grade Requirements

NAIS classes applied to NAIS degrees must be passed with a grade of C or better. This policy applies to NAIS classes completed fall semester 2012 and beyond.

Additional Information

Cross-Listing & NAIS Courses

In order to provide a broader range of relevant and enriching courses, in any given year, the program in Native American and Indigenous Studies offers topics courses (NAIS 2060 or NAIS 4990) that are frequently cross-listed with other majors and departments. Any such courses may be counted towards a student's 21 hours of required courses beyond the foundational courses.

If a student chooses to take more than one topics course in the same semester, it may require an override within the registration system. If you seek to enroll in a topics course and have trouble doing so, please contact scgsj@uwyo.edu.

Declaring a NAIS Major/Minor

Please complete and submit the "Change of Advisor, Major, Minor, Option/Concentration, College, and or Graduate Status" form available on the Office of the Registrar's website.

Minor

African American and Diaspora Studies Minor

Thematic tracks in the major or minor are optional:

- History
- Culture & Aesthetics
- Politics & Law
- Rhetoric & English
- Religion & Philosophy
- Media Studies

Minor Requirements

The minor in African American and Diaspora Studies consists of 21 credit hours:

- 9 credit hours of core course requirements
- 9 credit hours of electives (excludes core courses)
- 3 credit hours of senior thesis seminar (AAST 4975, Capstone)

American Studies Minor

Students may minor in American Studies through a program of 24 credit hours of study, with credit hours evenly distributed between lower and upper division courses, which include at least 3 courses in American Studies (with the AMST course prefix), at any level (except AMST 1101), in consultation with and depending on approval by a faculty advisor in American Studies. Coursework for the minor may be matched with a student's major requirements in related disciplines and fields.

Gender and Women's Studies Graduate Minor

Provides advanced, interdisciplinary, intersectional training in feminist and gender theory and praxis. This minor offers crucial knowledge and skills to students pursuing a wide range of graduate degrees and professional paths.

Requirements

A total of 12 credit hours are required to complete the Graduate Minor in GWST. This includes the following:

- GWST 5710 - Feminist Theoretical Perspectives Credits: 3 OR Approved Substitute
- An additional 9 credit hours of GWST electives, including 6 credits at the 5000-level.
- When practical, students should include a GWST faculty member on their thesis, dissertation or Plan B committees. Students in professional programs without a culminating research project can meet this requirement through alternative means.

Additional Information

Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), to discuss individual plans of study.

Gender and Women's Studies Minor

Provides foundational knowledge in historical and contemporary issues related to sex, gender, and sexuality. Upon completion, students will be able to apply

intersectional feminist and gender theories
to interdisciplinary research and practice.

Requirements

Students must complete 18 hours of GWST course work. Nine of the required hours must be 3000-level or above. At least 15 credit hours must be completed with a grade of "C" or better.

Core Course: 3 Credits

Complete at least ONE of the following core courses.

Note: some of these courses have prerequisites, so taking a lower and upper level course from this list is recommended, but not required:

- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3
- GWST 3600 - Gender, Race, Sex & Social Systems Credits: 3
- GWST 4700 - Feminist Theories Credits: 3

  Note: If taken prior to Fall 2022, these courses may also satisfy this requirement: GWST 3710, Gender & Humanities; GWST 2500, Gender & Society; GWST 1900, Women & Leadership.

Electives: 15 credit hours

The additional 15 credit hours can be selected from the complete slate of GWST electives, including those listed above.

Note: a minimum of 12 credit hours in the minor must be exclusive of hours earned in the student's major.

Additional Information

Students in the GWST minor and major are encouraged to work with a faculty advisor to develop an individualized plan of study. Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), for more information.

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. One of those courses (3 hours) must include the required foundation courses, and the remaining courses (15 hours) can be selected from the other areas of studies listed below.

Minor Requirements

3 Hours of Foundation Course

- LTST 1300 - Introduction to Latina/o Studies Credits: 3

3 Hours of History or Social Science

- LTST 2370 - Chicano History : Origins to 1900 Credits: 3
- LTST 2385 - Chicano History: 1900 to Present Credits: 3
- LTST 3800 - Chicanas/os in Contemporary Society Credits: 3

3 Hours of Culture, Arts, and Humanities

- LTST 2360 - Mexican American Literature Credits: 3
- LTST 3560 - Chicano Community Organizations Credits: 3
- LTST 4100 - U.S. Latina/o Theater Credits: 3
- LTST 4470 - Studies in Chicano Folklore Credits: 3

3 Hours of Gender, Race, Class, and Sexuality

- LTST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 3200 - Perspectives in Chicana Studies Credits: 3
- LTST 4650 - Women, Gender & Migration Credits: 3
- LTST 4675 - U.S. Women of Color Credits: 3

6 Hours of Electives

(or any courses listed above not yet taken)

- LTST 2060 - Special Topics in: Credits: 3
- LTST 3080 - Spanish Language in the USA Credits: 3
- LTST 4485 - USLatino Diaspora Credits: 3
- LTST 4496 - History of Mexico Credits: 3
- LTST 4975 - Independent Studies Credits: 1-3
- LTST 4990 - Topics in Chicano Studies Credits: 1-3

Native American and Indigenous Studies Graduate Minor

A graduate minor in Native American and Indigenous Studies is comprised of 12 hours with at least 6 hours at the 5000 level. It is expected that each graduate minor student and his/her graduate committee, at least one member of whom will be from NAIS, will determine the specific courses to be taken. It is recommended that one of the four classes selected be a 3 credit NAIS 5000 Independent Study. This class will provide a research experience in the discipline of Native American and Indigenous studies that may support a master's thesis or doctoral dissertation. The research expectation in NAIS can be satisfied by the 3 credit hour Independent Study and/or by the thesis or doctoral dissertation.

Students graduating with a graduate minor degree in Native American and Indigenous studies will be able to: 1) Make apparent in masters'-level research the interdisciplinary connections between Native American and Indigenous studies and the primary field of graduate study; 2) Integrate American Indian studies research methods with the research methods used in the primary field of graduate study; and 3) Demonstrate in writing the ability to understand a variety of subjects from a tribal perspective.

Native American and Indigenous Studies Minor

Students graduating with an undergraduate minor degree in NAIS will be able to: 1) Explain the concept of tribal sovereignty and how tribal sovereignty is both restricted and acknowledged by the federal trust relationship and by relationships with states; 2) Understand the development of modern tribal governments and their functions and importance in contemporary society; 3) Understand and appreciate the roles of history, culture, and politics in the development of tribal world views, world views that relate to modern life and contemporary issues of concern for Native

American and Indigenous peoples; 4) Identify historical, cultural, and political diversity and significance in Native oral traditions and written literatures; 5) Recognize stereotypes about Native American and Indigenous peoples and explain why these stereotypes were created and why they are sustained in modern society; and 6) Understand from the perspective of American Indian peoples, historical experiences and contemporary issues in North America.

Minor Requirements

The minor in Native American and Indigenous Studies requires 18 credit hours. Twelve credit hours must come from the following courses, three credit hours must be in either NAIS 1001 or NAIS 1350.

- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- NAIS 2210 - North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 2340 - Native American Culture and Literature Credits: 3
- Plus six hours of NAIS elective courses

Queer Studies Graduate Minor

Immerses students in advanced theoretical, historical and contemporary issues related to sexuality. Upon completion, students will be able to analyze systemic exclusion/inclusion, conduct independent interdisciplinary analysis through a queer studies lens, and apply queer theory to practice.

Requirements

A graduate minor in Queer Studies requires the completion of 12 credit hours, including AMST 5430 - Queer Theory/ GWST 5430 - Queer Theory , a minimum of 6 hours at the 5000+ level, and a capstone experience or independent study. For committee-based degree programs with queer studies content, it is expected that the student will include one committee member from Queer Studies faculty.

Faculty Advisory

An interdisciplinary, independent Queer Studies committee advises the program on curriculum, scheduling

andcoordination. A faculty advisor is assigned to the student on declaration of the minor.

The faculty advisory committee for the minor includes:

- Rachel Watson, Director Queer Studies, Chemistry
- Ulrich Adelt, American Studies, African American & Diaspora Studies
- Ruth Olga Bjorkenwall, Politics, Public Affairs & International Studies
- Christine Boggs, Ellbogen Center for Teaching & Learning
- Danielle Renee Cover, Law
- Michelle Jarman, Disability Studies, Gender & Women's Studies
- Barbara Ellen Logan, History
- Jamie Snyder, Criminal Justice & Sociology
- Jennifer Tabler, Criminal Justice & Sociology

Please contact the program director, Rachel Watson (RWatson@uwyo.edu), for more information.

Queer Studies Minor

Immerses students in theoretical, historical and contemporary issues related to sexuality. Upon completion, students will be able to analyze systemic exclusion/inclusion, conduct independent interdisciplinary analysis through a queer studies lens, and apply queer theory to practice.

Requirements

The Queer Studies minor requires the completion of 18 credit hours, including GWST 2000 - Introduction to LGBTQ/NS Studies and nine or more credits at the 3000-level or above. Each semester, students, in consultation with a queer studies advisor, will choose elective courses. A capstone project or internship is required but can be variable and determined in consultation with an advisor.

Faculty Advisory

An interdisciplinary, independent Queer Studies committee advises the program on curriculum, scheduling and coordination. A faculty advisor is assigned to the student on declaration of the minor.

The faculty advisory committee for the minor includes:

- Rachel Watson, Director Queer Studies, Chemistry

- Ulrich Adelt, American Studies, African American & Diaspora Studies
- Ruth Olga Bjorkenwall, Politics, Public Affairs & International Studies
- Christine Boggs, Ellbogen Center for Teaching & Learning
- Danielle Renee Cover, Law
- Michelle Jarman, Disability Studies, Gender & Women's Studies
- Barbara Ellen Logan, History
- Jamie Snyder, Criminal Justice & Sociology
- Jennifer Tabler, Criminal Justice & Sociology

Please contact the program director, Rachel Watson (RWatson@uwyo.edu), for more information.

Graduate

American Studies, M.A.

The American Studies M.A. is an interdisciplinary cultural studies professional development degree. M.A. graduates work in public settings, including historic preservation organizations, historic sites, museums, collections, and other non-profit organizations.

Information

Graduate Study

The American Studies M.A. is an interdisciplinary professional development degree in a committed learning community that builds on students' research interests, accomplishments, experiences, and career goals working with American cultural contexts past and present. After the M.A., our alums seek further professional specialization in law, education, writing, library and information science, and other fields; pursue Ph.D.'s in academic careers in American Studies and other scholarly areas including ethnic studies, cultural geography, literature, religious studies, anthropology, history, ethnomusicology, among others; and work professionally in public settings, including historic preservation organizations, historic sites, museums, collections, and other non-profit, community or governmental organizations.

The M.A. is a 2-year program for students enrolled full-time, culminating in a major research project, either a "Plan A" thesis, or a "Plan B" non-thesis portfolio of work. We work frequently with part-time M.A. students to accommodate

other demands on students' time. We encourage the development of emergent, innovative formats and project types as valuable contributions to contemporary American studies practice, relevant to a student's professional development plans.

Because American Studies is an international field with scholars all over the world, and the U.S. has significant impacts transnationally, M.A. Students from outside the U.S. are a regular part of our M.A. cohort, and we encourage our M.A. students to consider semester exchanges abroad. The Program also supports American Studies M.A. student and faculty participation in the annual biennial international conferences.

All M.A. students complete at least 15 credit hours in American Studies courses: 2 required theory and methods courses in the Program (AMST 5500 and AMST 5510), and 3 graduate seminars in American Studies. The remainder of coursework - 12 credits for those completing a thesis, or 15 credits for those completing non-thesis portfolios - can be drawn from graduate-level coursework in any area of study. Most of our M.A. students complete 1-3 credit internships as part of their coursework, in public or organizational sites in Laramie, elsewhere in Wyoming or the U.S., and occasionally abroad as well. M.A. students' paths through their programs of study are as varied as our students.

Program Learning Outcomes

Students graduating with an M.A. in American Studies integrate their educational backgrounds, research and professional interests, and coursework at the M.A. level inside and outside American Studies, in individual programs of study, to professionally engage American cultural production and communities in preparation for professional work or advanced graduate study. Students earning the M.A. in American Studies, either completing a thesis or pursuing the non-thesis Plan B project, are prepared to:

- Interpret a variety of objects significant to the study of American cultures, including words, narratives, images, material objects, communities, built environments, identities, cross-cultural and/or international perspectives, continuities and discontinuities with the past in a range of cultural settings.
- Demonstrate professional competence in writing and speaking in error-free expository prose, authoritative oral presentation, insightful use of relevant source material reflecting critical reading skill, prose style commensurate with professional responsibility, and prose content commensurate with professional responsibility.

- Produce professional research for a well-defined community (scholarly, public, or an appropriate combination), by identifying and using primary sources, building approaches from a relevant matrix of secondary sources, and understanding scholarly traditions within the field of American Studies that supports, expands, and connects research to professional goals.
- Make effective plans for advanced graduate study or professional employment by developing competencies listed above, including the opportunity to complete appropriate internship or field course work in an area of the student's professional plans.

Program Specific Admission Requirements

Those interested in graduate study are encouraged to contact the American Studies Program (307-766-3898 or amst@uwyo.edu) for more information.

Applicants to the M.A. program do not have to have prior majors in American Studies. The American Studies program does not require the GRE in applications to our M.A. program.

The application deadline for fall enrollment is March 1. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. In addition to an application, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

1. Statement of Purpose

2. A significant writing sample (usually a seminar paper or, for those coming from technical fields, a major report) that demonstrates potential for graduate study

3. Three letters of recommendation that assess the student's academic and research abilities

3. Transcripts from all undergraduate institutions and graduate programs

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Financial Aid

The American Studies M.A. is generously supported by endowment funds that allow us to award significant financial aid to M.A. students enrolled full time, through teaching, research, or community organization assistantship placements, as well as scholarship support as appropriate for students' own M.A. research.

Program Specific Degree Requirements

Graduate student must successfully complete 30 hours (for Plan B non-thesis) or 31 hours (for Plan A thesis) of graduate credit including the following:

Required Courses

(3 credit hours) AMST 5500 with a grade of B or better

(3 credit hours) AMST 5510 with a grade of B or better

(9 credit hours) graduate (5000) level AMST courses

Additional Requirements

Plan A thesis:

(12 credit hours) of graduate (5000) level courses in any field

(4 credit hours) of AMST 5960 - Thesis Research

Completion of a Master's Thesis

OR

Plan B non-thesis:

(15 credit hours) of graduate (5000) level courses in any field

Completion of a non-thesis project

Completion of exam

Certificate

American Studies Certificate

The certificate program allows students to choose from undergraduate and graduate courses in American Studies, literature, geography, music, art, history, philosophy, sociology, folklore, anthropology, Native American and Indigenous studies, political science, environmental studies, and media studies.

The program encompasses two semesters of full time work: a total of at least 24 semester hours, or approximately 8 courses. Of these, 6 credit hours (2 courses) must be selected from the following list:

Requirements

- AMST 2010 - Introduction to American Studies Credits: 3
- Any AMST course at the 4000- or 5000-level Credits: 3
- An additional 18 hours (6 courses) are chosen in consultation with an American Studies faculty adviser. The final 3 credit hours, completed during the summer months, are devoted to an internship (AMST 4970) or field experience in American culture (AMST 4900).

Teachers of American Indian Children (TIAC) (Teaching) Endorsement/UW Certification

Through Distance Education, a Teachers of American Indian Children (TAIC) Endorsement / Graduate Certificate can be earned. This non-degree graduate program certifies that those who complete its five specialized courses possess the attitudes, knowledge, and competence necessary to effectively teach American Indian Children. Upon completion, students receive official recognition of their achievement on their transcripts and an official certificate. Visit the Distance Education Degrees and Programs Website www.uwyo.edu/distance/ for more information. All courses are cross-listed with NAIS and EDCI.

An interdepartmental Native American and Indigenous Studies Advisory Committee guides the program's development. The director advises students selecting the NAIS studies major or minor.

Complete information about the Native American and Indigenous Studies undergraduate major, undergraduate minor, and graduate minor is available in the NAIS Program office and on the program Website.

Department of Anthropology

106 George C. Frison Building,
(307) 766-5136
FAX: (307) 766-2473
Web site: www.uwyo.edu/anthropology
Department Chair: Melissa S. Murphy

Professors:

JAMES AHERN, B.A. Beloit College 1991; M.A. Northern Illinois University 1993; Ph.D. University of Michigan 1998; Professor of Anthropology 2014, 2000.

MARCEL KORNFELD, B.A. University of New Mexico 1974; M.A. University of Wyoming 1982; Ph.D. University of Massachusetts-Amherst 1994; Professor of Anthropology 2008, 1996.

MELISSA S. MURPHY, B.A. Haverford College 1994; Ph.D. University of Pennsylvania 2004; Professor of Anthropology 2021, 2008.

TODD SUROVELL, B.S. University of Wisconsin-Madison 1995; M.A. University of Arizona 1998; Ph.D. 2003; Professor of Anthropology 2015, 2003.

Associate Professors:

PAMELA INNES, B.A. Bryn Mawr College 1986; M.A. University of Oklahoma 1992; Ph.D. 1997; Associate Professor of Anthropology 2007, 2001.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Associate Professor of History and Anthropology 2021, 2014.

JASON TOOHEY, B.A. University of California Santa Barbara 1995; M.A. California State University Northridge 2000; Ph.D. University of California Santa Barbara 2009; Associate Professor of Anthropology 2017, 2011.

Assistant Professors:

ALLISON CAINE, B.A. Bates College, 2007; M.Sc. University of Edinburgh 2010; Ph.D. University of Michigan 2019; Assistant Professor of Anthropology 2022.

BRIANA DOERING, B.A. Barnard College, Columbia University, 2012; M.A. University of Michigan 2016; Ph.D. 2020, Assistant Professor of Anthropology 2020.

SEAN FIELD, B.A. Northern Colorado University 2015; M.A. University of Nebraska 2017; M.A. Notre Dame University 2019; Ph.D. Notre Dame University 2023; Assistant Professor School of Computing and Anthropology 2023.

RANDY HAAS, B.A. Northern Arizona 2001; M.A. Northern Arizona University 2003; Ph.D. University of Arizona 2014; Assistant Professor of Anthropology 2023.

LAUREN HAYES, B.A. Wake Forest University 2006; M.A. University of Arizona 2006; Ph.D. University of Arizona 2017; Assistant Professor of Anthropology 2023.

JESSICA NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of School of Culture, Gender, and Social Justice 2019.

NIKOLAS SWEET, B.A. Virginia Tech, 2005; M.A. University of Michigan 2014; Ph.D. 2019; Assistant Professor of Anthropology 2022.

Adjunct Faculty:

Adams, Budowle, Gardner, Janković, Karavanić, Kitchel, Lynch, Mackie, Miller, Olujić, Pelton, Peterson, Raguž, Rapson, Stadbauer, Todd, Walker, Wilkinson

Lecturers:

James Johnson

Professors Emeriti:

George W. Gill, Michael E. Harkin, Robert L Kelly, Mary Lou Larson, Lin A. Poyer, Charles A. Reher, Audrey C. Shalinsky

The department of Anthropology promotes the understanding of humankind from an integrated, holistic approach which examines past, present and future trends in cultural, biological and linguistic diversity and uniformity. Though the department serves undergraduate and graduate majors who will become professional anthropologists or will pursue other related careers, it also provides information to a large number of non-majors and to the larger community regarding

cross-cultural issues. Furthermore, because of its commitment to the four field approach including biological anthropology, archaeology, cultural anthropology and linguistic anthropology, the department fosters among its students an awareness of the interrelatedness of scientific concepts, methods and theories, and the humanistic foundation of scientific inquiry. The Department of Anthropology prepares its students both to understand the cultural resources of Wyoming and to participate as informed citizens in an increasingly complex global community.

Undergraduate Major

The Anthropology B.A. program has the following learning outcomes:

1. students demonstrate knowledge about the four fields of anthropology and their interrelationship,

2. students participate in a research experience and understand its process, and

3. students demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

In addition to university and college requirements listed in this Catalog, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. Specific requirements for a B.A. in anthropology are ANTH 1100, 1200, 1300, and 2000. Students must complete ANTH 3300 or ANTH 3310. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975. Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology). Courses that can be used to fulfill upper division cultural anthropology are ANTH 4023, 4300, 4310, 4320, 4325, 4330, 4340, 4350, 4380, 4020 (with instructor's consent). Courses that can be used to fulfill upper division linguistic anthropology are ANTH 4024, 4740, 4765, 4775, 4785, 4795, 4020 (with instructor's consent). Courses that can be used to fulfill upper division biological anthropology are ANTH 4022, 4210, 4215, 4220, 4230, 4255, 4260, 4020 (with instructor's consent). Courses that can be used to fulfill upper division archaeology are ANTH 3900, 4021, 4110, 4115, 4120, 4125, 4130, 4145, 4150, 4160, 4170, 4175, 4020 (with instructor's consent), or six credits of archaeological field school (ANTH 4140 or 5180). It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year

course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

At the completion of the Bachelor of Arts degree in Anthropology, students will be able to demonstrate knowledge about the four subfields of anthropology and their interrelationships; they will have participated in a research experience and understand its process; and, they will demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

Undergraduate Minors

The Anthropology undergraduate minor has the following learning outcomes:

1. students learn sufficient subfield information to complement a variety of disciplines,

2. students learn basic methods of the discipline, and

3. students learn basic theories/ types of subfield explanation.

The minor for non-anthropology majors requires two of the introductory courses: ANTH 1100, 1200, 1300, 2000, and 11- 12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level. See the anthropology web site for more details.

Teacher Education

Anthropology courses may be used to complete part of the requirements for teacher certification in social studies.

Graduate Study

The department offers programs of study leading to Master of Arts and Doctor of Philosophy degrees in Anthropology. Check Anthropology department web pages for any updates.

Program Specific Admission Requirements

Master's Program

The Anthropology M.A. program has the following learning outcomes:

1. students will be able to explain the content of the "four fields" of anthropology and their interrelationship in written and oral formats,

2. students will have experience in original research, and

3. students will develop skills which foster professionalism as related to their chosen field.

Deadline for application is February 15 for the following fall. See graduate admission requirements. Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

The Department of Anthropology requires that at least two of the recommendation letters be from academic supervisors or instructors.

Students must present evidence of a satisfactory background in anthropology, which should include coursework in all four subfields of Anthropology (socio/cultural, bio/physical, archaeology, and linguistics). Deficiencies in anthropology may require remediation. Students must have two semesters of a single foreign language or equivalent, and one semester of statistics. In those instances in which the undergraduate background of the student is deficient, the department reserves the right to prescribe course work that would correct such deficiencies.

The M.A. program is designed to be completed in two full years of graduate study. Appropriate allowance will be made for parttime students.

Students who graduate with a Master of Arts degree will be able to explain the content of the four fields of Anthropology and their interrelationship in written and oral formats; they will have an experience in original research; and, they will develop skills which foster professionalism in their chosen fields.

Doctoral Program

The Anthropology Ph.D. program has the following learning outcomes:

1. students will have professional and specialized training so they can move into careers in academic or non-academic tracks,

2. students will have a dissertation research experience that results in professional publication(s), thereby contributing to the expansion of knowledge, and

3. students will have practical experience that will promote their movement into professional careers in a reasonable amount of time.

Deadline for application is December 1 for the following fall. *See graduate admission requirements.*

Submit letter of intent, resume, transcripts, and an optional writing sample as digital documents to the UW online application system. A minimum of three letters of recommendation are required; a standardized recommendation form is provided through the application system.

In the letter of intent, students should identify whom they would like as their faculty adviser and describe their research interests, career goals, and how Wyoming's program will help them achieve these goals.

Students with a master's degree may apply directly to the Ph.D. program.

Students with a bachelor's degree may apply to the Ph.D. program. If admitted, students are expected to complete the master's degree requirements following the Plan A or Plan B option before formal admission to the Ph.D. program. At the thesis defense or hearing for the Plan B paper, the student will receive a no pass, pass-terminate at the master's degree, or a pass-admit to the Ph.D. program.

Students admitted to the department's M.A. program are not guaranteed admission to the Ph.D. program.

For admission to the Ph.D. program with the Bachelor's degree, students must have course work in the four subfields of anthropology, two semesters of a single foreign language, and statistical competency at either the B.A. or M.A. level. If these are not satisfied, the student's faculty adviser in coordination with the student's graduate committee assigns remedial work as appropriate.

Students who graduate with a Ph.D. in Anthropology will have specialized and professional training so they can move into academic or non-academic tracks; they will have a dissertation experience that results in professional

publications; and they will have professional experiences that facilitate their move into careers in a reasonable amount of time.

Program Specific Graduate Assistantships

Doctoral students generally receive two years of assistantships. First semester, first year M.A. students are generally not awarded assistantships; however, the department occasionally does make exceptions. M.A. students are eligible to apply for assistantships beginning in the second semester.

Assistantships are awarded through a departmental application process. An application form, cover letter, and resume are required. Information and deadlines may be obtained in the department office.

Failure to complete steps in the M.A. program by established deadline (e.g., advisor selection, proposal presentation, etc.) means the student is not eligible for an assistantship. Failure of the Ph.D. preliminary exam means the student is not eligible for an assistantship.

Program Specific Degree Requirements

Master's Program Plan A (thesis)

See university minimum requirements.

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of ANTH 5010, 20th Century Anthropological Theory; ANTH 5015, Archaeological Theory and Method; ANTH 5020, Biological Anthropology; and ANTH 5030, Linguistic Anthropology.

First semester (fall): Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (spring): Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Third semester (fall): Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (spring): Thesis is completed and is approved by thesis committee.

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Plan B (non-thesis)

See university minimum requirements.

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Doctoral Program

See university minimum requirements.

After completion of an M.A. program in anthropology.

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee. If not completed prior to admission, two semesters of a single foreign language must be completed.

Two additional courses in their first or second year: ANTH 5880, Professionalism in Anthropology and the two-semester sequence of ANTH 5890, Teaching Anthropology (3 hours total).

Teaching experience, including standalone courses, after completion of the first semester of Teaching and Learning (ANTH 5890), as well as teaching assistance to UW faculty members.

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Committee meeting and successful completion of a dissertation proposal.

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

Major

Anthropology, B.A.

Anthropology students will be able to demonstrate knowledge about the four subfields of anthropology. They will have participated in research and will be able to analyze and synthesize in relation to anthropological issues or theories.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the

courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The BA in Anthropology requires the A&S Core:

- D - Diversity (3 credits)
- G - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Specific Requirements for a B.A.

This degree requires a total of 38 credits in Anthropology, 25 of which are upper-division credits. In addition to university and college requirements listed in this *Catalog*, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975.

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ANTH 1300 - Introduction to Archaeology Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3

- ANTH 3300 - Ethnographic Methods in Anthropology Credits: 3

OR

- ANTH 3310 - Introduction to Anthropology Research Methods Credits: 3

Recommended

It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or STAT 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

Additional Requirements

Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology).

Upper Division Cultural Anthropology

Courses that can be used to fulfill upper division cultural anthropology are

- ANTH 4023 - Seminar in Cultural Anthropology Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ANTH 4320 - Political Anthropology Credits: 3
- ANTH 4340 - Culture Change Credits: 3
- ANTH 4350 - Medical Anthropology Credits: 3
- ANTH 4380 - Visual Anthropology Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Linguistic Anthropology

Courses that can be used to fulfill upper division linguistic anthropology are

- ANTH 4024 - Seminar in Linguistic Anthropology Credits: 3
- ANTH 4740 - Native American Languages and Cultures Credits: 3
- ANTH 4765 - Language Humor and Games Credits: 3
- ANTH 4775 - Language and Gender Credits: 3
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Biological Anthropology

Courses that can be used to fulfill upper division biological anthropology are

- ANTH 4022 - Seminar in Biological Anthropology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4215 - Hominin Evolution Credits: 3
- ANTH 4220 - Human Variation Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- ANTH 4255 - Bioarchaeology Credits: 3
- ANTH 4260 - Anthropology of Food, Culture, and Nutrition Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Archaeology

Courses that can be used to fulfill upper division archaeology are

- ANTH 4021 - Seminar in Archaeology Credits: 3
- ANTH 4110 - Zooarchaeology I Credits: 3
- ANTH 4115 - Lithic Analysis Credits: 3
- ANTH 4120 - North American Archaeology Credits: 3
- ANTH 4125 - Northwestern Plains Prehistory Credits: 3
- ANTH 4130 - Old World Archaeology Credits: 3
- ANTH 4145 - Origins of the State Credits: 3
- ANTH 4150 - Seminar in Prehistory Credits: 1-3
- ANTH 4160 - Mapping Culture: Introduction to GIS in Anthropology Credits: 4
- ANTH 4170 - Geoarchaeology Credits: 3
- ANTH 4175 - South American Prehistory Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's consent)

OR

- Six credits of archaeological field school (ANTH 4140 or ANTH 5180).

Minor

Anthropology Minor

Students will gain introductory training in at least two of the subfields of Anthropology combined with three or four upper division courses.

Introductory Courses

The minor for non-anthropology majors requires two of the introductory courses:

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ANTH 1300 - Introduction to Archaeology Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3

Electives

- 11-12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level.

Graduate

Anthropology, M.A.

M.A. students receive training in the four subfields of anthropology, complete original research, and develop skills which foster professionalism as related to their chosen field.

Plan A (Thesis)

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Core-Course Sequence

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of

- ANTH 5010 - 20th Century Anthropology Theory Credits: 3
- ANTH 5015 - Archaeological Theory Credits: 3
- ANTH 5020 - Biological Anthropology Credits: 3
- ANTH 5030 - Linguistic Anthropology Credits: 3

First semester (Fall):

Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (Spring):

Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

Third semester (Fall):

Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (Spring):

Thesis is completed and is approved by thesis committee.

Plan B (Non-Thesis)

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Anthropology, Ph.D.

Provides students with training so to achieve academic or non-academic career goals. Students have a dissertation experience that results in professional publication. They will also have practical experience that will promote movement into careers.

Program Requirements

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

A Minimum of Six Content Courses: 18 Hours

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee.

First or Second Year:

Two additional courses in their first or second year

- ANTH 5880 - Professionalism Credits: 3
- ANTH 5890 - Teaching Anthropology Credits: 3 (two-semester sequence)

Teaching Experience

Teaching experience, including standalone courses, after completion of the first semester of ANTH 5890 - Teaching Anthropology, as well as teaching assistance to UW faculty members.

Internship Experience Credits: 6-24 Hours

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Dissertation Proposal

Committee meeting and successful completion of a dissertation proposal.

Preliminary Exams

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

Highly Recommended

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Department of Visual Arts

110 Visual Arts Building, (307) 766-3269
Web site: https://www.uwyo.edu/art/
Department Head: Doug Russell

Professors:

ASHLEY HOPE CARLISLE, B.F.A. University of Southern Mississippi 1997; M.F.A. University of Georgia 2002; Professor of Art 2019, 2003.

RICKI KLAGES, B.F.A. University of Arizona 1984; M.A. University of New Mexico 1991; M.F.A. 1993; Professor of Art 2012, 1996.

DOUG RUSSELL, B.F.A. Columbia College 1990; M.A. University of Iowa 1995; M.F.A. 1996; Professor of Art 2019, 2005.

RACHEL SAILOR, B.A. Oregon State University 1992; M.A. University of Oregon 1994; Ph.D. University of Iowa 2007; Professor of Art 2023, 2011.

SHELBY SHADWELL, B.F.A. Washington University in St. Louis 2003; M.F.A. Southern Illinois University 2007; Professor of Art 2024, 2010.

Associate Professors:

PETER FINE, B.A. California State University, Chico 1993; M.F.A. University of Arizona 2004; Associate Professor of Art 2017, 2013.

BRANDON GELLIS, B.A. University of California at Santa Cruz 2002; M.F.A. University of Denver 2015; Associate Professor of Art 2021, 2015.

Assistant Professors:

KAIT ARNDT, B.F.A. Utah State University 2010, M.F.A. University of Missouri 2016, Assistant Professor of Art 2023.

XUHAO (HOWE) YANG, B.F.A. Guangzhou Academy of Fine Arts, Guangzhou, Guangdong China 2001; M.F.A. University of North Texas 2013; Ph.D. University of Arizona, 2024; Assistant Professor of Art 2024.

Senior Academic Professional Research Scientist:

DAVID L. JONES Jr., B.F.A. University of Georgia 2000; M.F.A. University of Tennessee 2004.

Assistant Academic Professional Lecturer:

TRACEY ECKERSLEY, B.A., Wilfrid Laurier University; M.A., McMaster University; M.M.St., University of Toronto; Ph.D., University of Louisville, 2016.

SAMARA JOHNSON, B.F.A. Sonoma State University 2013; M.F.A. University of Colorado-Boulder 2020

Senior Academic Professional Lecturer:

BAILEY RUSSEL, B.A. Princeton University 2001; M.A. New York University 2004.

Professors Emeriti:

Deaderick, Edwards, Evans, Flach, Forrest, Reif, Russin (Distinguished Professor of Art), Schaefer, Haydon, Hardy, Ritchie

Visual Arts

The Department of Visual Arts supports the creative, aesthetic and cultural development of students within the university community and serves the cultural and educational needs of the state. The department is dedicated to preparing its graduates to assume leadership positions in their professional lives while maintaining an inner commitment to

the aesthetic standards of their chosen discipline. The department encompasses four major areas: Studio Art, Visual Communication Design, Art History, and Art Education.

The program fosters a unique combination of innovation, tradition, aestheticism and practicality, by providing a professional visual arts education built on a strong University Studies Program (USP) foundation.

Department Policy

A class within the Department of Visual Arts may require additional meeting times, so that students may fully participate in the Visiting Artist Program and the UWAM lecture series.

As a matter of policy, the Department of Visual Arts reserves the right to retain any works created by students it deems worthy for the purposes of exhibition until the end of the academic year.

The Department of Visual Arts studios are the primary instructional classrooms. As a matter of policy, access to the studios and use of the equipment is reserved for students who are formally registered for scheduled courses and are following a prescribed curriculum.

Scholarships

The department has several scholarships for qualified students at all stages in the program. See the Department of Visual Arts website for a full list of scholarships.

Academic and Career Advisement

Faculty advisers work closely with department students to guide and direct their progress through their declared degree program and course of study. Through the Visiting Artist and Scholar Program, the UW Art Museum and internship placements, the department provides numerous opportunities and role models for a professional life in the visual arts. Through consultation and discussion with faculty advisers, art students consider their interests and abilities in relation to the many and varied careers in the arts and art related fields. Many graduates go directly into industry, on to pursue graduate studies or take the next step in their career plan. On a competitive basis upon graduation, majors may participate in the Post Undergraduate Assistantship Program where they may prepare a portfolio for graduate school and/or gain additional experience in the studio and the classroom setting.

Undergraduate Majors

The University of Wyoming Department of Visual Arts offers five degrees:

- Bachelor of Arts in Art History
- Bachelor of Arts in Studio Art
- Bachelor of Arts in Art Education
- Bachelor of Fine Arts in Studio Art
- Bachelor of Fine Arts in Visual Communication Design

Transfer Residency

A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in all five of the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000- and above).

BA in Studio Art and BA in Art Education Majors - General Requirements

ART 1005, 1110, 1120 and 1130 are considered an important preparation and prerequisite for drawing, painting, printmaking, ceramics, sculpture and visual communication design courses and are required freshman courses for the majors. Studio Art and Art Education Majors must complete the Foundation Core Hours before electing upper division courses in any studio area. ART 2010, 2020, and 2305 are required sophomore courses.

Once sophomore BA in Art Studio and BA in Art Education majors complete course prerequisites, they select a minimum of four courses from the studio core hours. Most of the university and college requirements should be completed as early as possible before the senior year. The department will enforce published prerequisites for courses.

BA in Studio Art and BA in Art Education majors must submit a portfolio for evaluation in ART 2000: Portfolio Review before proceeding to intermediate and advanced studio and design classes (3000 and 4000 level) beyond the required Studio Core. Any student whose portfolio is assessed as deficient must address the deficiencies by retaking and passing Portfolio Review before receiving permission to advance in the major. Students who intend to apply into the BFA in Studio Art or the BFA in Visual Communication Design must first declare a BA in Studio Art and successfully pass ART 2000: Portfolio Review.

Please note: Any BA in Studio Art and BA in Art Education student who does not pass ART 2000: Portfolio Review on their first attempt may decide to re-take the class. However, failure to pass the review twice will render the student ineligible to progress in the Department as a BA in Studio Art, BFA in Studio Art , BA in Art Education, or BFA in Visual Communication Design major, although minors in the department and the BA in Art History remain open - as do all other majors and minors on campus. Any student who has failed to pass Portfolio Review twice may petition to take the review for a third time based on extenuating circumstances outside of their control. Students may only petition once and the decision on that petition is final. ART 2000: Portfolio Review will is offered in each fall, spring, and summer semesters.

Undergraduate Minors

Minors are offered in the following areas:

- Art History
- Ceramics
- Digital Media
- Drawing
- Metalsmithing
- Museum Studies
- Painting
- Photography
- Printmaking
- Sculpture

Further information may be found on the department's website.

Please note: B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design and B.A. in Art Education degree students cannot have a minor in a specific studio discipline. B.A. in Art History students may have a minor in studio disciplines, and B.A. in Studio Art, B.F.A. in Studio Art, B.F.A. in Visual Communication Design, and B.A. in Art Education degree students may have a minor in Art History and/or Museum Studies.

Major

Art Education, B.A.

The BA in Art Education is a professional degree preparing students to be reflective, innovative K-12 art educators. The curriculum includes extensive Studio Art competencies and studies in Art History and Education.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Art Education** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 1115 - Digital Media Credits: 1
  required

- ART 2000 - Portfolio Review Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

12 credits chosen from the below. At least one core course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required

Upper Division Art History: 6 hours

6 credits of upper division art history beyond ART 2010 and ART 2020

Upper Division Studio Electives: 12 Hours

12 credits of any upper division studio art classes

Art Education Program Requirements

Minimum Course Requirements for B.A. in Art Education

Minimum course requirements for Art Education Majors follow the curriculum plan for the B.A. in Studio Art Degree:

- University and College requirements,
- Foundations Core,
- Art History Core,
- Studio Core
- Upper Division Studio Electives.

The exception that there is no Foreign Language requirement. Students are required to apply for a Wyoming Substitute Teaching Certificate in the fall of their first semester in the program. Additional requirements are:

Professional Education Courses: 9 Hours

- EDST 2450 - Foundations of Development and Learning Credits: 3
  required
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3
  required
- EDEX 2484 - Introduction to Special Education Credits: 3
  required

Art Education Courses: 27 Hours

- ART 3430 - Methods I Credits: 3
  required
- ART 3490 - Philosophy, Theory and Issues Credits: 3
  required
- ART 3550 - Art Education Practicum Credits: 1-3
  required
- ART 4440 - Methods II Credits: 3
  required
- ART 4460 - Curriculum Design Credits: 3
  required
- ART 4810 - Residency for Elementary Credits: 6
  required
- ART 4820 - Residency for Secondary Credits: 6

required

Studio or Art History Elective, any level: 3 Hours

**3 units of course in Studio Art or Art History at any level*

Additional Requirements

B.A. IN ART EDUCATION DEGREE

The BA in Art Education degree supports students' development as reflective, innovative and engaged K-12 art educators. The curriculum encompasses extensive Studio Art competencies as well as studies in Art History and Professional Education. Art Education courses cover a variety of teaching practices and methods of curriculum development that include interdisciplinary, multicultural approaches to teaching and emphasize relevance to the lives of K-12 students and the realities of our contemporary world. In-class learning is augmented with firsthand teaching experiences in local and regional schools, the University of Wyoming Art Museum, and includes teaching people of all ages in community-based arts settings. Upon graduation from our program, students earn Wyoming licensure for teaching K-12 Art.

Degree Requirements

Requirements of the degree include:

- 120 hours, including 91 hours within the major
- C or better in all courses taken to satisfy Major requirements
- Background check for all incoming art education degree students required prior to enrollment
- Application for art education degree is due prior to enrollment in Art Education courses
- 2.75 UW Total Institution GPA must be maintained throughout the Art Education Program of study
- 2.75 GPA within the major must be maintained throughout the Art Education Program of study
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses
- Score of 158 or above on the on the Praxis II Test: Art Content and Analysis by the end of the Residency semester
- As a Professional Degree, the BA in Art Education does not include the A&S Outside Major credit requirement.

Application

Students must fulfill the requirements listed in the *Application for the Art Education Program Checklist*:

- Satisfactory Completion of ART 2000 Portfolio Review
- C or above in all Education Courses
- C or above in all Art Content Courses
- Junior Standing (60+ credits)
- 2.75 or above overall UW total institutional GPA
- 2.75 or above in Major courses
- Completed background check

Probation, Removal, and Re-Application

- An Institutional and/or Major GPA below 2.75 mandates a probationary semester in the program (continuing with art ed courses) to raise GPA back up to 2.75 to continue
- If Institutional and Major GPA are not both above 2.75 by the end of the probationary semester, the student will be removed from the program
- Students may re-apply after removal from program if their GPA is again at or above 2.75

Art History, B.A.

The BA in Art History offers students a broad understanding of world art, historiography, and professional practices. Closely linked to the Museum Studies minor, the BA prepares students for graduate work or the work force.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Art History** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Program Requirements

Requirements of the degree include:

- 120 hours, including 57 hours within the major
- All Art courses must be passed with a letter grade of C or better
- 2.50 GPA within major required
- 2.50 or above overall UW total institutional GPA
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses

Art History Core: 12 Hours

- ART 2010 - Art History I Credits: 3 *required*
- ART 2020 - Art History II Credits: 3 *required*
- ART 2030 - History of Graphic Design Credits: 3 *required*
- ART 2070 - Introduction to Museology Credits: 3 *required*

Upper Division Electives: 30 Hours

*30 units - with the following stipulations:

15 hours 3000 or 4000 level Art History Courses

6 hours of ART 4790 Art Seminar

6 hours of upper division art history taken in other departments with cross listed courses

Courses in other disciplines as applicable

Honors Courses as applicable (Honors Program)

Potential other courses on a case by case basis in consultation with art history advisor

3 credits Internship or Art History travel course in consultation with art history advisor

Cross listed and applicable courses

*6 hours of upper division are history may be taken in other departments with cross listed courses (that may have prerequisites other than Art History).

- ART 4830 - Victorian Women's Lives: Their Art, Literature and Culture Credits: 3

OR

- GWST 4830 - Victorian Women's Lives: Their Art, Literature and Culture Credits: 3

- ART 4780 - History of Women Artists Credits: 3

OR

- GWST 4780 - History of Women Artists Credits: 3

- ARE 3030 - History of Architecture Credits: 3
- AMST 4250 - The Harlem Renaissance Credits: 3

- AMST 4640 - Art and Ecology Credits: 3

- Special Topics in American Studies including travel courses (as appropriate)
- Special topics in Classical and Modern Languages- including travel courses (as appropriate)
- HIST 4077 - Book History: Topics Credits: 3

Art Seminar

*6 hours of ART 4790 Art Seminar (fulfills USP COM 3 requirement)

- ART 4790 - Art Seminar Credits: 1-3

required **Credits / Units:** 6

Upper Division Art History: 15 hours

*15 hours 3000 or 4000 level Art History Courses

Internship or Travel

*3 credits Internship or Art History travel course in consultation with art history advisor

- ART 4400 - Internship Credits: 1-3

Foreign Language: 15 Hours

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4
- LANG 2030 - Third Semester in (TOPIC) Credits: 1-4
- LANG 2040 - Fourth Semester in: (TOPIC) Credits: 3

Additional Requirements and Description

The B.A. in Art History major offers students with a course of study that will provide depth and breadth in the history of art. Students will develop a broad understanding of world art, study the art of western and other global cultures in-depth, and explore the historiography and professional practices related to the field. Closely linked to the Museum Studies minor curriculum, the B.A. in Art History has a strong vocational application. This degree provides preparation for entry into graduate school or for students who want to enter the work force after their undergraduate education. Students will have the experience and training to enter into the cultural sector (arts or archival management, non-profit work in the arts and humanities, etc.).

Studio Art, B.A.

The BA in Studio Art degree prepares students for further studies or careers in the studio arts and arts-related fields including art therapy, illustration, arts administration, design, and art education.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the

courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Studio Art** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Minimum Course Requirements for Art Majors

In addition to the university and college requirements listed above and in this Catalog, all students majoring in art must complete the following:

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1115 - Digital Media Credits: 1
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 2000 - Portfolio Review Credits: 1
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Studio Core (Minimum): 12 Hours

12 credits chosen from the below. At least one course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2255 - Introduction to Photography, Digital Credits: 3

OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3
- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Upper Division Studio Electives: 12 Hours

12 credits of any upper division studio art classes

Foreign Language: 8 Hours

8 Hours of any Foreign Langage:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Art History Electives: 6 Hours

6 credits beyond ART 2010 and ART 2020, with at least 3 units at upper division level

Additional Requirements

B.A. IN STUDIO ART DEGREE

The B.A. in Studio Art degree is available to students who are preparing for further studies or careers in the arts and arts-related fields, such as art education, graphic design, art therapy, illustration, botanical illustration, and forensic illustration. Students work with their academic advisers to select courses from the USP and elective offerings to complement art studies in their areas of interest. Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. In addition to the university requirement that degree candidates hold a minimum cumulative grade point average of 2.000, degree candidates for the B.A. in Studio Art degree in the Department of Visual Arts also must have a minimum 2.500 overall cumulative grade point average and a 2.500 grade point average within all major courses at the time of graduation.

Transfer Residency. A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000 and above).

Based on their goals and career plans, students in consultation with a faculty adviser select the appropriate degree plan. Students major in studio art with areas of study in one or more of the following:

- Drawing
- Painting
- Photography
- Printmaking
- Ceramics
- Sculpture
- Metalsmithing
- Visual Communication Design

Studio Art, B.F.A.

The BFA in Studio Art is a professional degree open to outstanding students through an application process who are preparing for art studies, careers and professional activity in the studio arts.

Degree Requirements

This degree requires 122 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BFA in Studio Art** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 2000 - Portfolio Review Credits: 1
  required

- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

12 credits chosen from the below. At least one core course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required

Upper Division Studio Electives: 21 Hours

21 credits of any upper division studio art classes

Art and Art History Electives: 3 Hours

3 credits of any art or art history course at any level

BFA Core: 12 Hours

- ART 4010 - Contemporary Art: Theory/Practice Credits: 3
  required
- ART 4600 - Professional Practices and Strategies Credits: 3
  required
- ART 4800 - BFA Capstone I Credits: 3
  required, offered only fall semester
- ART 4840 - BFA Capstone II Credits: 3
  required, offered only spring semester

Upper Division Art History Electives: 9 Hours

9 credits of any upper division art history classes

Foreign Language: 8 Hours

8 hours in any Foreign Language:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Additional Requirements

B.F.A. IN STUDIO ART DEGREE

The B.F.A. in Studio Art is a professional level degree open to outstanding students through an application process who are preparing for art studies, careers and professional activity in the studio arts beyond the undergraduate level. The B.F.A. in Studio Art degree requires a minimum of 120 hours of credits with up to seventy-eight (78) semester hours focused in studio and art history course work. All B.F.A. in Studio Art students are required to participate in the B.F.A. exhibition upon graduation. As a Professional Degree, the B.F.A. in Studio Art does not include the A&S Outside Major credit requirement.

Application
Formal application is made to the program for acceptance into the B.F.A. in Studio Art degree program. Application must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty review of the application materials are required before a student is

declared a candidate for the B.F.A. in Studio Art degree. Applicants must have achieved the following at the time of application to the B.F.A. in Studio Art:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA
- Successful completion of ART 2000: Portfolio Review

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Studio Art candidate. Students should apply at least three semesters before graduation. Application does not automatically guarantee acceptance into the B.F.A. in Studio Art program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual and Literary Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Studio Art after one semester in the Department of Visual Arts.

Visual Communication Design, B.F.A.

The BFA in Visual Communication Design is a professional degree open to outstanding students through an application process who are preparing for design studies, careers and professional activity in design.

Degree Requirements

This degree requires 122 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and

consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BFA in Visual Communication Design** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 2000 - Portfolio Review Credits: 1
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

12 credits chosen from the below. At least one course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3

OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History and Design Theory Core: 9 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required
- ART 2030 - History of Graphic Design Credits: 3
  required

Upper Division Art History - 20th and 21st Century: 6 Hours

* six hours in ART 4740 and ART 4770

- ART 4740 - 20th Century European Art Credits: 3
  required
- ART 4770 - Contemporary Arts Seminar Credits: 3
  required

VCD Core: 12 Hours

- ART 2110 - Type I: Thinking with Type Credits: 3
  required
- ART 2112 - VCD I Visual Thinking Credits: 3

required

- ART 2125 - VCD II Visual Programming Credits: 3
  required

- ART 2255 - Introduction to Photography, Digital Credits: 3

OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3

Upper Division VCD: 15 Hours

- ART 3112 - Type: Type, Images, and Narrative Credits: 3
  required
- ART 3120 - VCD III: Visual Making Credits: 3
  required
- ART 3150 - VCD IV: Visual Imaging in Time Credits: 3
  required
- ART 4120 - VCD VI: Senior Design Studio Credits: 3
  required
- ART 4400 - Internship Credits: 1-3

OR

- ART 4425 - Graphics Internship Credits: 3

BFA Core: 12 Hours

- ART 4010 - Contemporary Art: Theory/Practice Credits: 3
  required
- ART 4600 - Professional Practices and Strategies Credits: 3
  required
- ART 4800 - BFA Capstone I Credits: 3
  required, offered only fall semester
- ART 4840 - BFA Capstone II Credits: 3
  required, offered only spring semester

Upper Division Studio Electives: 9 Hours

9 credits of any upper division studio art classes

Foreign Language: 8 Hours

* 8 credits in any foreign language:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Additional Requirements

B.F.A. in Visual Communication Design

Designers explore a variety of visual communication design topics dealing with diverse messages and audiences. Students interested in pursuing a career in design, including visual communication design, graphic design, motion graphics, animation, digital media, etc. may apply into the B.F.A. in Visual Communication Design. Students planning to graduate in four years with a B.F.A. in Visual Communication Design should complete their Foundation Core in their Freshman year and take the appropriate Studio Core classes in their sophomore year. As a Professional Degree, the B.F.A. in Visual Communication Design does not include the A&S Outside Major credit requirement.

Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. To obtain a B.F.A. in Visual Communication Design degree in the Department of Visual Arts students must have a minimum 3.00 overall UW-total institutional GPA, and a 3.25 GPA in all major courses at the time of graduation.

The Visual Communication Design degree provides students with a human-centered approach to making and thinking as designers. Students learn through digital and hands-on-making design challenges to develop critical narrative skills and refine their ability to think conceptually. Individual projects and research prepare each student to think flexibly in an international community that is continually being influenced by new ideas, tools, and technologies. The Visual Arts Building, design computer classroom, and design and fabrication studio facilities offer undergraduate students ample research, design, and production space with access to cutting-edge technology, and open-source, industry standard software and tools for design exploration.

Application
Formal application is made to the program for acceptance into the B.F.A. in Visual Communication Design degree program. Applications must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty reviews of the application materials are required before a student is declared a candidate for the B.F.A. in Visual Communication Design degree. Applicants must have achieved the following at the time of application to the B.F.A. in Visual Communication Design:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA
- Successful completion of ART 2000: Portfolio Review

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Visual Communication Design candidate. Students should apply at least three semesters before graduation. Application does not automatically guarantee acceptance into the B.F.A. in Visual Communication Design program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Visual Communication Design after one semester in the Department of Visual Arts.

Minor

Art History Minor

The Art History Minor introduces students to the discipline of Art History in a 21 credit hour sequence.

Art History Sequence: 6 Hours

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Lower Division Requirement: 3 Hours

- ART 2070 - Introduction to Museology Credits: 3

OR

- ART 2030 - History of Graphic Design Credits: 3

Other Traditions: 3 Hours

Including but not limited to Art & Architecture of Medieval Islam, Japanese Art History, Meso-American Art History

- ART 3720 - Art and Architecture of Medieval Islam Credits: 3

Art History Electives at the 3000/4000-level: 9 Hours

Art History Electives at the 3000/4000-level (including additional Other Traditions) Credits: 9

Total Credits: 21 Hours

Ceramics Minor

The Ceramics Minor introduces students to the discipline of Ceramics in a 24 credit hour sequence.

Required Courses: 18 Hours

- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2425 - Ceramics I Credits: 3
- ART 3410 - Ceramics III/I Credits: 3
- ART 3420 - Ceramics III/II Credits: 3
- ART 4410 - Ceramics IV/I Credits: 3
- ART 4420 - Ceramics IV/II Credits: 3

Studio Elective Courses in Ceramics: 3 Hours

- ART 2350 - Metalsmithing I Credits: 3

  OR
- ART 2310 - Sculptural Practices I Credits: 3

Art History Survey Elective: 3 Hours

Choose one of the following:

- ART 2010 - Art History I Credits: 3

  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Digital Media Minor

The Digital Media Minor introduces students to the discipline of Digital Media in a 28 credit hour sequence.

Required Courses: 19 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1115 - Digital Media Credits: 1
- ART 2030 - History of Graphic Design Credits: 3
- ART 2110 - Type I: Thinking with Type Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2125 - VCD II Visual Programming Credits: 3
- ART 3150 - VCD IV: Visual Imaging in Time Credits: 3

Foundation Electives: 3 Hours

- ART 1110 - Foundation: Two Dimensional Credits: 3

OR

- ART 1130 - Foundation: Color Theory Credits: 3

VCD Electives: 3 Hours

- ART 3112 - Type: Type, Images, and Narrative Credits: 3

OR

- ART 4120 - VCD VI: Senior Design Studio Credits: 3

Art History Survey Elective: 3 Hours

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 28 Hours

Drawing Minor

The Drawing Minor introduces students to the discipline of Drawing in a 21 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 2005 - Drawing II Credits: 3
- ART 3052 - Life Drawing I Credits: 3

Studio Elective Courses in Drawing: 6 Hours

*6 credits chosen from the following...

- ART 3005 - Drawing III Credits: 3
- ART 4005 - Drawing IV Credits: 3
- ART 4052 - Life Drawing II Credits: 3
- ART 3250 - Watercolor Painting I Credits: 3
- ART 3260 - Illustration I Credits: 3
- ART 4250 - Watercolor Painting II Credits: 3
- ART 4260 - Illustration II Credits: 3
- ART 4975 - Independent Study and Research Credits: 1-3

Art History Survey Elective: 3 Hours

Choose one from

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Metalsmithing Minor

The Metalsmithing Minor introduces students to the discipline of Metalsmithing in a 21 credit hour sequence.

Required Courses: 12 Hours

- ART 1130 - Foundation: Color Theory Credits: 3

OR

- ART 1005 - Drawing I Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 3350 - Metalsmithing II Credits: 3

Studio Elective Courses in Metalsmithing: 6 Hours

- ART 4355 - Metalsmithing III Credits: 3
  required
- ART 4360 - Metalsmithing: Special Topics Credits: 3
  required

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Museum Studies Minor

The Museum Studies Minor introduces students to the discipline of Museum Studies. The total credit requirement varies.

Museum Studies Core: 12 Hours

- ART 2070 - Introduction to Museology Credits: 3
- ART 2075 - Museology II Credits: 3
  Cross-listed with: ANTH 2075, AMST 2075, HIST 2075

Related Skills - 3 Hours

3 credits to be taken from one of the following courses:

- ENGL 4075 - Writing for Non-Profits Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3

Internship - 3 Hours

3 credits at an Internship:

- ART 4078 - Museum Studies Minor Internship Credits: 3

  Cross-listed with: ANTH 4078, AMST 4078, HIST 4078

Methods Core: 6 Hours

Two 3-credit courses must be chosen from the following options:

- AMST 2400 - Introduction to Historic Preservation Credits: 3
- AMST 4300 - American Culture and the Public Sector Credits: 3
- AMST 4900 - Field Studies in American Culture Credits: 1-4
- ANTH 3310 - Introduction to Anthropology Research Methods Credits: 3
- ANTH 3300 - Ethnographic Methods in Anthropology Credits: 3
- ANTH 4020 - Seminar Credits: 3-6
- ANTH 4190 - Public Archaeology Credits: 3
- ENTO 4684 - Classification of Insects Credits: 4
- ART 4790 - Art Seminar Credits: 1-3
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 4113 - Geological Remote Sensing Credits: 4
- GEOL 4717 - Field Course in Geology Credits: 1-8
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3

Elective Courses: 3 Hours

Students will choose courses from the elective list in conjunction with their advisor, based on their area(s) of interest. Additional courses listed in the museum studies and methods cores can be chosen as electives. For a list of electives, go to www.uwyo.edu/museumstudies.

Cultural Experience / International Fieldwork

Choose one of the following:

- Study Abroad/International Field School - students may enroll or participate in an approved study abroad course or

program - credits may vary,
OR

- Foreign Language, Indigenous Language, or American Sign Language - 12 hours (12 hours of the same langauge **OR** 8 hours of one language and 4 hours of a second language).

Painting Minor

The Painting Minor introduces students to the discipline of Painting in a 24 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 2210 - Painting I Credits: 3

Studio Elective Courses in Painting: 9 Hours

Choose from 3000/4000-level painting courses including but not limited to:

- ART 3210 - Painting II Credits: 3
- ART 4210 - Painting III Credits: 3
- ART 4220 - Painting Topics Credits: 6
- ART 3250 - Watercolor Painting I Credits: 3
- ART 4250 - Watercolor Painting II Credits: 3
- ART 4655 - Outdoor Studio Credits: 3

- ART 3260 - Illustration I Credits: 3

  OR
- ART 4260 - Illustration II Credits: 3

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Photography Minor

The Photography Minor introduces students to the discipline of Photrography in a 24 credit hour sequence.

Required Courses: 15 Hours

- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 3510 - Printmaking I Credits: 3

OR

- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2265 - Introduction to Photography, Black and White Credits: 3
- ART 2255 - Introduction to Photography, Digital Credits: 3

Studio Elective Courses in Photography: 6 Hours

- Choose from 3000/4000-level photography courses

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Printmaking Minor

The Printmaking Minor introduces students to the discipline of Printmaking in a 24 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3

OR

- ART 1130 - Foundation: Color Theory Credits: 3

- An upper division drawing course beyond ART 1005

- ART 3510 - Printmaking I Credits: 3

Studio Elective Courses in Printmaking: 9 Hours

- Choose from 3000/4000-level printmaking courses Credits: 9

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Sculpture Minor

The Sculpture Minor introduces students to the discipline of Sculpture in a 21 credit hour sequence.

Required Courses: 6 Hours

- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2310 - Sculptural Practices I Credits: 3

Studio Elective Courses in Sculpture: 12 Hours

Choose from the following:

- ART 3310 - Sculptural Practices: Cast Form I Credits: 3
- ART 3320 - Sculptural Practices: Mixed Media I Credits: 3
- ART 3330 - Sculptural Practices: Assembled Form I Credits: 3
- ART 3345 - Sculptural Practices: Special Topics Credits: 3
- ART 4310 - Sculptural Practices: Cast Form II Credits: 3

- ART 4330 - Sculptural Practices: Assembled Form II Credits: 3

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Certificate

Arts Entrepreneurship Certificate

The Arts Entrepreneurship Certificate includes all performance and visual arts on campus and benefits students by creating learning labs which incubate collaborative work across disciplines, strengthening ties between artistic communities in Wyoming, and preparing UW's students to work in the rapidly changing arts job market.

Choose one of the following:

- ART 4600 - Professional Practices and Strategies Credits: 3

OR

- MUSC 4000 - Careers in Music Credits: 2

OR

- THEA 3850 - Design and Technology Seminar Credits: 2

OR

- THEA 4720 - Auditioning and Professional Issues Credits: 3

OR

- THEA 4700 - Professional Seminar in Dance Credits: 1

Seminar

- ART 4002 - Arts Entrepreneurship Seminar Credits:

Entrepreneurial Mindset

- ENTR 2400 - Entrepreneurial Mindset Credits: 3

Choose one of the following:

- MGT 2100 - Management and Organizations Credits: 3

OR

- MKT 2100 - Introduction to Marketing Credits: 3

Department of Communication and Journalism

223 Ross Hall, (307) 766-3122
FAX: (307) 766-5293
Web site: www.uwyo.edu/COJO
Department Chair: Cindy Price Schultz

Professor:

CHIA FANG (SANDY) HSU, B.A. Chinese Culture University 1995; M.A. Washington State University 1997; Ph.D. Washington State University 2002; Associate Professor of Communication and Journalism 2009, 2003.

Associate Professors:

LI LI, B.A. Hebei Normal University 2001; M.A. China University of Mining and Technology 2004; M.A. Ohio University 2009; Ph.D. 2012; Associate Professor of Communication and Journalism 2019, 2012.

CINDY J. PRICE SCHULTZ, B.A. University of Sioux Falls 1989; M.S. South Dakota State University 1992; Ph.D. Southern Illinois University 2000; Associate Professor of Communication and Journalism 2005, 1999.

Assistant Professor:

SHANE EPPING, B.A. University of Chicago; M.A. Washington University, St. Louis; M.A. University of Missouri; Ph.D., University of Missouri.

HYE SOO NAH, B.A. Hankuk University, 2008; M.A., University of Missouri, 2011; Ph.D., University of Illinois, 2023.

Senior Lecturers:

BEAU BINGHAM, B.S. Idaho State University 2000; M.A. New Mexico State University 2002; Senior Lecturer of Communication and Journalism 2007, 2003.

JUSTIN STEWART, B.A. University of Wyoming 2003; M.A. 2005; Senior Lecturer of Communication and Journalism 2017, 2005.

Assistant Lecturers:

MATTHEW LIU, B.A. University of Mary Washington 2009; M.A. Wake Forest University 2014; Assistant Lecturer of Communication and Journalism 2019.

MITZI STEWART, B.A. University of Wyoming 2007; M.A. 2015; Assistant Lecturer of Communication and Journalism 2019.

Emeriti:

Michael R. Brown, B. Wayne Callaway, William C. Donaghy, John W. Ravage, Kenneth L. Smith

The Department of Communication and Journalism provides a broad range of professional and research courses, offering a sound interdisciplinary academic program for students who plan careers in communication or media. Courses are comprised of writing, speaking and analyzing messages; forms of interpersonal communication; media effects and audiences' interpretations of media messages and images. Degrees are granted in communication and journalism with academic specialties in each of the degree areas. Students are given academic preparation in communication skills (media writing and public speaking), coupled with opportunities for professional experience in their majors. The department also offers minors in public relations, communication, journalism, and marketing communication.

Facilities and Research Activities

The department encourages majors to work actively in professional opportunities. The department offers unique experience for students with the student newspaper, *The Branding Iron*.

Oral Communication Center, Ross Hall 442. A resource for the entire university community. The lab is open for anyone required to present material orally. Lab instructors offer assistance at any stage in the process-from topic selection, purpose statements and gathering materials-to organizing, outlining and rehearsal. They can help alleviate speech anxiety that may prevent or inhibit some individuals from achieving their overall academic or career goals. Clients can have their presentations recorded for critical input and evaluation as well as for portfolio or interview applications.

Debate. The department conducts a nationally recognized program of Cross Examination Debate Association (CEDA) and has a College Public Forum team. Teams and individuals representing the university attend national intercollegiate tournaments each year. Participation in the forensics program is open to all University of Wyoming students on a credit (COJO 2099) or non-credit basis.

Laboratories. The department has computer laboratories that support the professional, academic and research programs. These include a computer lab and digital production equipment.

Research. The department encourages undergraduate and graduate research. Faculty and students participate in research projects in social, cultural and political aspects related to media, interpersonal and organizational processes.

Internships. Journalism majors are required to complete internships in their field. Communication majors are encouraged to complete internships in their field. In addition to working with the *Branding Iron*, students can complete internships with newspapers; advertising and public relations agencies; non-profit organizations; businesses, professional and university sports organizations; governmental agencies; and many others. *Note*: a maximum of 6 hours in COJO 3480 and COJO 4990 count as fulfillment of the requirements for a major. Up to 12 hours will count toward graduation as upper-division hours.

Student Organizations

Professional Organizations. The department has a chapter of Lambda Pi Eta, communication honorary.

Student Activity. Within the department, student representatives participate on faculty committees where they assist in forming policies of the department.

The Branding Iron. The daily campus newspaper is independently managed by students at UW. It provides professional experiences for reporting, editorial, photojournalism, publication design and advertising.

The Owen Wister Review. The literary and arts magazine is independently managed and produced by university students, it features poetry, short stories, essays, photography and artwork.

Frontiers Magazine. The magazine is independently managed by UW students. Containing general interest content, the publication offers students opportunities to improve their professional skills in feature writing, in-depth reporting, photography, layout, design, advertising and marketing. Like the *Branding Iron* and *Owen Wister Review*, *Frontiers* is published under the auspices of UW Student Publications.

Scholarships and Awards

The department has several scholarships available to qualified students. Most are managed by Student Financial Aid.

Undergraduate Programs

The department offers courses leading to baccalaureate degrees in communication and journalism, as well as being an instrumental part of the Agricultural Communications degree. If a student wishes to double major in any of these degrees, only six credits will double count for each major.

Students majoring in the department must earn a grade of C or better in departmental required courses. Students may not take a course for S/U credit to satisfy requirements of the major.

Minors

The department offers minors in communication, journalism, marketing communication, and public relations. All minors must have a 2.00 minimum in minor classes. If a student is a communication, journalism or Agricultural Communications major, only six credits can double count for the major and the minor.

Graduate Study

The Department of Communication and Journalism offers graduate work leading to the master of arts degree in communication (either thesis or non-thesis) with emphasis on human communication or media communication.

The program offers coursework and study in rhetorical, critical/cultural, and social scientific perspectives and methodologies. The program is designed to be flexible such that students can examine questions that relate to their specific interests in human communication and/or mediated communication. Areas of interest include but are not limited to 1) communication processes in media (e.g., journalism, social media, advertising, public relations) about various issues such as politics, race and ethnicity, science, health, law and ethics, and international relations; 2) communication processes in human relationships (e.g., in interpersonal, small group, and organizational settings) about various issues such as culture, diversity, education, technology, science, and politics; and 3) communication as an agent of stability and change in diverse social systems.

Program Specific Admission Requirements

A cumulative minimum grade point average of 3.000 (A=4.000) on previous coursework is required for full admission.

The GRE is not required for admission to the graduate program. However, anyone who wants to be considered for a graduate assistantship in the department must take the GRE.

For international graduate students, the minimum acceptable TOEFL score is 540 (76 iBT). The minimum acceptable IELTS score is 6.5. International students must also provide proof of financial support (see UW Admissions for more details).

All graduate student applications, both domestic and international, must provide a writing sample of their work, whether that is a research paper, media publication, or another example of scholarly work. Please contact the director of graduate studies with any questions about the writing sample.

Major

Communication, B.A.

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.
Communication major Degree Requirements: This degree requires 120 credits, 21 of which are upper-division credits required for the communication major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Departmental Core Courses

In addition to the university studies requirements listed in this Catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Required Courses

- COMM 1040 - Intro to Communication Theory Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3

- COJO 3040 - Advanced Communication Theory Credits: 3
- Electives Credits: 15 (At least 12 elective hours must be at the 3000-level or higher of COJO courses.) The other three hours may be lower or upper division in COJO/COMM.

College of Arts and Science Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Humanities: 6-8 (H)

Communication, B.S.

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.
Communication major Degree Requirements: This degree requires 120 credits, 21 of which are upper-division credits required for the communication major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Departmental Core Courses

In addition to the university studies requirements listed in this Catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4 (4)
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4 (4)

Required Courses

- COMM 1040 - Intro to Communication Theory Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3
- Electives Credits: 15 (At least 12 elective hours must be at the 3000-level or higher of COJO courses.) The other three hours may be lower or upper division in COJO/COMM.

College of Arts and Sciences Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Physical and Natural World Credits: 6-8 (PN)

OR

- Quantitative Reasoning Credits: 6-8 (Q)

Journalism, B.A.

The journalism major is designed to prepare students for careers as reporters, editors and writers with newspapers, news services, magazines, public information, public relations, advertising, and many other fields.
Journalism major Degree Requirements: This degree requires 120 credits, 24 of which are upper-division credits required for the journalism major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

- Departmental Core Courses Credits: 30
- COJO 3480 - Internship Credits: 1-12 (3)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- Elective Credits: 15 (At least 9 hours must be from the list of journalism courses.)Three hours need to be upper division in COJO. The other three hours can be upper or lower division in COJO/COMM.

Departmental Core Courses

In addition to the university studies requirements listed in this catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4 (4)
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4 (4)

College of Arts and Sciences Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Human Culture Credits: 6 (H)

Minor

Communication Minor

The communication minor is an excellent companion to a variety of majors, such as political science, business, environment, agriculture and many others that need excellent communication skills.

Required: 12 Hours

- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3

Electives: 6 Hours

- COJO 3160 - Theory of Language and Society Credits: 3
- COJO 3190 - Cross-Cultural Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (limited to 3 credits)
- COJO 3520 - Communication Technology and Society Credits: 3
- COJO 3550 - Political Communication Credits: 3
- COJO 3900 - Family Communication Credits: 3
- COJO 4020 - Mass Media and Society Credits: 3
- COJO 4030 - Advanced Interpersonal Communication Credits: 3
- COJO 4050 - Communication and Conflict Credits: 3
- COJO 4061 - Rhetorical Theory and Criticism Credits: 3

- COJO 4140 - Nonverbal Communication Studies Credits: 3
- COJO 4250 - Advanced Organizational Communication Credits: 3
- COJO 4260 - Rhetoric and Social Justice Credits: 3
- COJO 4620 - Intergroup Communication Credits: 3
- COJO 4640 - Communication Apprehension/ Competence Credits: 3
- COJO 4210 - Special Topics in Communication Credits: 1-3 (no more than one)

Total: 18 Hours

Other Information:

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Journalism Minor

The journalism minor is an excellent companion to a variety of majors, such as political science, business, environment, agriculture and many others that need applied writing and media-oriented skills.

Required Courses: 9 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3

Elective Courses: 9 Hours

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3000 - History of American Journalism Credits: 3
- COJO 3100 - Public Affairs Reporting Credits: 3
- COJO 3200 - Graphics of Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (limited to 3 credits)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 3550 - Political Communication Credits: 3
- COJO 4020 - Mass Media and Society Credits: 3
- COJO 4040 - Digital Video Production Credits: 3
- COJO 4200 - Visual Communication Credits: 3
- COJO 4230 - Special Topics in Mass Media Credits: 1-3 (no more than one)

- COJO 4233 - Race, Gender, Ethnicity in the Media Credits: 3
- COJO 4400 - Photojournalism Credits: 3 (COMM 2400 prerequisite)
- COJO 4530 - Web Design Credits: 3
- COJO 4700 - Media, Science, and Society Credits: 3

Total: 18 Hours

Additional Information

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Marketing Communication Minor

The marketing communication minor is combination of skills acquired in the marketing and communication fields. It is only available to College of Business or Communication and Journalism majors.

Required for all Minors

- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- COJO 3300 - Advertising in the Media Credits: 3
- COJO 3310 - Public Relations Credits: 3

Emphasis

COJO Emphasis

(to be taken by non-COJO majors):

Choose Three Courses from the Following: 9 Hours

- COMM 2100 - Media Writing Credits: 3 (Required in this emphasis and prerequisite to COJO 3300 and COJO 3310)
- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3200 - Graphics of Communication Credits: 3

- COJO 3480 - Internship Credits: 1-12 (Prerequisite 9 hours of COJO, 3 credits can apply toward minor)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4040 - Digital Video Production Credits: 3 (Prerequisite 9 hours of COJO)
- COJO 4310 - Public Relations Techniques Credits: 3 (Prerequisite COJO 3310)

Marketing Emphasis

(to be taken by non-College of Business majors):

Choose Three Courses from the Following: 9 Hours

- MKT 4240 - Consumer Behavior Credits: 3 (Required in this emphasis)
- MKT 4520 - Marketing Research and Analysis Credits: 3
- MKT 4540 - International Marketing Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3
- MKT 4910 - Topics in Marketing Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3

Total: 21 Hours

Additional Information

Students seeking a minor must have 15 hours exclusive to the minor and not used in the major.

Public Relations Minor

Public relations is a minor that can help you in numerous fields. It is foundational for learning how to promote your organization and build relationships with many different publics to the benefit of all involved.

Required: 12 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 3310 - Public Relations Credits: 3
- COJO 4310 - Public Relations Techniques Credits: 3

Three of the Following: 9 Hours

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3300 - Advertising in the Media Credits: 3
- COJO 3480 - Internship Credits: 1-12
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4040 - Digital Video Production Credits: 3
- COJO 4200 - Visual Communication Credits: 3
- COJO 4230 - Special Topics in Mass Media Credits: 1-3 (no more than one)
- COJO 4250 - Advanced Organizational Communication Credits: 3
- COJO 4530 - Web Design Credits: 3

Total: 21 Hours

Additional Information

Students seeking a minor must have 15 hours exclusive to the minor and not used in the major.

Graduate

Communication, M.A.

The master's in communication is an excellent degree to enrich your skills in writing, oral, and other forms of communication. There are two tracks: human and mediated communication. Several assistantships are available.

Admission Requirements:

Prospective students who are interested in this program are encouraged to contact the Director of Graduate Studies, Dr. Sandy Hsu (hsus@uwyo.edu), for more information and guidance regarding applying. To apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): Statement of purpose, transcripts (a minimum of cumulative 3.0 GPA), three letters of recommendation, and writing samples. International applicants, who are not native English-speakers, must submit TOEFL, IELTS, or Duolingo scores.

If you want to be considered for a graduate teaching assistantship teaching either Public Speaking or Media Writing, the PR/Marketing graduate assistantship, the Wyoming Debate Union graduate assistantship, or the Rott research fellowship positions, please complete the online application by March 1. You must complete the GA application sent to you via email from the UW Office of Admissions (once you start an online application, UW Admissions will email you this document). You must also upload a resume to your online GA application. The resume should include a 3-5 minute video link that highlights and illustrates how you would approach being a teaching, marketing, or debate assistant. Those who apply for a research fellow must give a one-page summary about their research knowledge and capabilities and explain how their planned thesis or project is part of the journalism or media field.

Research Thesis: 31 Hours

31 hour program.

Students must complete an accepted research thesis approved by the student's thesis committee.

Students must complete a minimum of 27 credit hours and 4 hours of thesis credit. A minimum of 24 hours must be within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 3 hours of 4000-level coursework.

Students Must Complete

- COJO 5070 - Quantitative Research Methods Credits: 3
- COJO 5080 - Qualitative Research Methods Credits: 3
- COJO 5800 - Foundations of Communication and Journalism Credits: 3

One of the Following Theory Courses:

- COJO 5061 - Rhetorical Theory and Criticism Credits: 3
- COJO 5310 - Seminar in Mass Communications Credits: 3
- COJO 5540 - Seminar in Communication Theory Credits: 3

Professional Project: 33 Hours

33 hour program.

Students must complete an accepted professional project (e.g., documentary film, public relations and marketing plan, website) approved by the student's graduate committee. Students who chose the project option will be required to take 30 credit hours plus 3 hours of Graduate Project credits (for a total of 33 credit hours). A minimum of 27 hours must be taken within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 6 hours of 4000-level coursework.

Students Must Complete

- COJO 5070 - Quantitative Research Methods Credits: 3
- COJO 5080 - Qualitative Research Methods Credits: 3
- COJO 5800 - Foundations of Communication and Journalism Credits: 3

One of the Following Theory Courses:

- COJO 5061 - Rhetorical Theory and Criticism Credits: 3
- COJO 5310 - Seminar in Mass Communications Credits: 3
- COJO 5540 - Seminar in Communication Theory Credits: 3

Department of Criminal Justice and Sociology

Contact Information

208 Arts and Sciences Building,
(307) 766-2988
Criminal Justice website: www.uwyo.edu/cj **Sociology website:** www.uwyo.edu/Sociology
Department Head: Eric Wodahl

Mission Statement

The Department of Criminal Justice & Sociology is committed to providing its students with a comprehensive liberal arts education and advancing research of value to Wyoming and our respective fields. We strive to provide a

high-quality education to students that will inspire them to become critical thinkers, effective communicators, and lifelong consumers of knowledge. Students will be exposed to diverse perspectives, research, and learning opportunities to prepare them for a variety of professions in the public, private, non-profit, research, service, and academic settings.

Faculty

Professors:

ADRIENNE FRENG, B.A. Black Hills State University 1995; M.A. University of Nebraska 1997; Ph.D. 2001; Professor of Criminal Justice 2007, 2001.

ERIC J. WODAHL, A.A. Eastern Wyoming College 1992; B.A. Chadron State College 1994; M.P.A. University of Wyoming 2003; Ph.D. University of Nebraska at Omaha 2007; Professor of Criminal Justice 2021, 2007.

Associate Professors:

JAMIE A. SNYDER, B.S. Northern Kentucky University 2005; M.S. University of Cincinnati 2007; Ph.D. 2011; Associate Professor of Criminal Justice 2021, 2018.

JENNIFER TABLER, B.A. University of California Los Angeles 2010; M.S. University of Utah 2013; Ph.D. 2016; Associate Professor of Sociology 2022, 2018.

CLAIR UDING, B.A. Colorado State University 2009; Ph.D. Arizona State University 2015; Associate Professor of Criminal Justice 2023, 2018.

Assistant Professors:

DANIEL AUERBACH, B.S. St. Lawrence University 2008; M.S. North Carolina State University 2012; Ph.D. University of Utah 2020; Assistant Professor of Sociology 2020.

KYLE BARES, B.A. University of Wyoming 2016; M.A. Bowling Green State University 2018; Ph.D. Bowling Green State University 2021; Assistant Professor of Criminal Justice 2022.

KATELYN GOLLADAY, B.B.A. Pacific Lutheran University 2012; M.S. Arizona State University 2014; Ph.D. 2018; Assistant Professor of Criminal Justice 2018.

KENNETH R HANSON, B.A. Seattle University 2015; M.A. Kent State University 2017; Ph.D. University of Oregon 2022; Assistant Professor of Sociology 2022.

JULIE KUPER, B.S. Florida State University; M.S. Florida State University; Ph.D. Florida State University, 2024; Assistant Professor 2024.

Lecturers:

DANIEL FETSCO, B.A. University of Wyoming 1995; J.D. University of Denver 1998; M.A. Arizona State University 2013; Associate Lecturer of Criminal Justice 2023, 2017.

PAUL GREGORY, B.S. Lamar University 1992; M.A. University of Houston; Ph.D. Western Michigan University; Assistant Lecturer 2024.

AMANDA SIKIRICA, B.A. College of William and Mary; M.S. University of Oregon; Ph.D. University of Oregon; Assistant Lecturer 2023.

Adjunct Professor:

(See Catalog section following name for academic credentials.)

MARTHA MCCAUGHEY, Ph.D., Visiting Adjunct Professor

Professors Emeriti:

David Ashley, Audie Blevins, Gary Hampe, Malcolm Holmes, Quee-Young Kim, Richard Machalek

Degree Programs

Criminal Justice Program

Criminal Justice is a social science that major examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services. The Criminal Justice Program offers both undergraduate and graduate degrees, concentrations, and minors (see below for details). Criminal Justice students will be involved in a critical examination of the sources of criminal behavior and the social and political institutions and processes designed to

control criminal behavior. We expect that our graduating students will have achieved the following learning outcomes:

- Students will identify and describe major types of crime, the extent of crime, and its distribution in society.
- Students will describe the broad historical and contemporary understanding of criminal justice systems, the interconnectedness of policing, courts, and corrections.
- Students will recognize and apply major legal principles that serve as the foundation for civil and criminal law in the justice system.
- Students will describe basic concepts and evaluate theoretical perspectives in criminology and criminal justice.
- Students will demonstrate the ability to comprehend and critically assess research and policy relevant to the field of criminal justice and criminology.
- Students will critically examine major ethical dilemmas facing the criminal justice field and the related issues of diversity and discrimination.

Sociology Program

Sociology is the scientific study of group life and the investigation of the social causes and consequences of human behavior. This discipline occupies a central position in the social sciences and covers the full scope of social behaviors, from interactions between individuals to relationships among entire societies. Most importantly, sociology invites students to analyze those features of social existence that we are most likely to take for granted. As such, sociological training imparts critical and analytical skills of great value in virtually all aspects of modern life.

Much of the applied knowledge employed in diverse fields such as communications, social work, business management, family life, health care, urban planning, government, education, religion and the administration of justice derives from basic sociological research. Consequently, sociological training provides an excellent background for occupations connected with these fields. In addition, an undergraduate degree in sociology prepares many students for advanced study in law, education, business, public administration, social work, pastoral work, health care and other professions.

We expect that our graduating students will have achieved the following learning outcomes:

- Demonstrate an understanding of basic concepts and theoretical perspectives in sociology
- Apply the scientific method to sociological research
- Develop proficiency in the critical consumption of academic and non-academic sources

- Express sociological ideas in core substantive areas, such as inequality, race/ethnicity, environment, deviance, gender, family, and education, clearly and coherently through written and oral communication
- Apply a sociological framework to social problems occurring locally, nationally, and globally

Major

Criminal Justice, B.A.

The B.A. in Criminal Justice is a social science major that examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Arts & Sciences College Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

Students must complete all foundation courses with a grade of C or better.

- CRMJ 1001 - Introduction to Criminal Justice Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- CRMJ 2400 - Criminology Credits: 3
- CRMJ 2465 - Research Methods Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 3350 - Correctional Theory and Practice Credits: 3
- CRMJ 3490 - Issues in Policing Credits: 3
- CRMJ 4200 - Ethics in Administration of Justice Credits: 3

Criminal Justice Core

Students must complete any 4 courses with a grade of C or better.

- CRMJ 3250 - Juvenile Delinquency Credits: 3
- CRMJ 3400 - Deviant Behavior Credits: 3
- CRMJ 3500 - Drugs and the Criminal Justice System Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3
- CRMJ 4150 - Community-Based Corrections Credits: 3
- CRMJ 4151 - Crime Causation Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3
- CRMJ 4340 - Victimology Credits:
- CRMJ 4540 - Gender and Crime Credits: 3
- CRMJ 4550 - Crime Prevention Credits:
- CRMJ 4705 - Terrorism Credits: 3

Supporting Courses

Students must complete one three credit hour course from the list below; or 1 additional course from Criminal Justice Core. Must be completed with a grade of C or better.

- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- CRMJ 4230 - Forensic Anthropology Credits: 3
- CRMJ 4350 - Sociology of Law Credits: 3
- CRMJ 4370 - Criminal Psychopathology Credits: 3
- CRMJ 4590 - Green Criminology Credits: 3
- CRMJ 4600 - Political Violence Credits: 3

- CRMJ 4730 - Psychology and Law Credits: 3
- CRMJ 4750 - Criminal Justice Internship Credits: 1-12
- CRMJ 4760 - Child Maltreatment Credits: 3
- CRMJ 4965 - Research Hours in Criminal Justice Credits: 1-6
- CRMJ 4975 - Readings Credits: 1-3
- CRMJ 4990 - Special Topics Credits: 3

Foreign Language

Students are required to complete two semesters of the same foreign language with a grade of C or better. Two semesters of American Sign Language (SPPA 2110 & SPPA 2120) will fulfill this requirement.

Statistics

Students are required to complete STAT 2050 or STAT 2070 or SOC 2070 with a grade of C or better.

In Addition

Upper division course work that was completed more than ten years prior to graduation will not meet major requirements.

Criminal Justice, Prelaw Concentration, B.A.

The Pre-Law Concentration consists of diverse courses selected from departments across the university to help prepare students for the challenges of law school and the practice of law.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Verbal Comprehension and Expression: 3 Hours Minimum

- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3160 - Theory of Language and Society Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- HIST 4515 - American Legal History Credits: 3

Written Comprehension and Expression: 6 Hours Minimum

Students must complete any two (2) courses with a USP designation of WC or COM3.

Critical Understanding of Human Institutions and Values: 3 Hours Minimum

- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3

- PHIL 3340 - Philosophy in Literature Credits: 3 (max. 3 hours)

OR

- ENGL 3340 - Philosophy in Literature Credits: 3 (max. 3 hours)
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3500 - History of Science Credits: 3
- POLS 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- ENR 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- COJO 4260 - Rhetoric and Social Justice Credits: 3

OR

- AAST 4260 - Rhetoric and Social Justice Credits: 3

Creative and Analytical Thinking: 3 Hours Minimum

- CW 2050 - Introduction to Fiction Credits: 3

OR

- CW 2060 - Introduction to Nonfiction Credits: 3 (max. 3 hours)

OR

- CW 2080 - Introduction to Poetry Credits: 3 (max. 3 hours)

- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- STAT 4015 - Regression Analysis Credits: 3

- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3

World Cultures and International Institutions: 3 Hours Minimum

- INBU 1040 - Introduction to International Business Credits: 3

OR

- INST 1040 - Introduction to International Business Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3

- INST 2310 - Introduction to International Relations Credits: 3

OR

- POLS 2310 - Introduction to International Relations Credits: 3

- PHIL 3320 - Eastern Thought Credits: 3
- ANTH 3420 - The Anthropology of Global Issues Credits: 3

OR

- INST 3420 - The Anthropology of Global Issues Credits: 3

- CRMJ 4280 - Comparative Criminal Justice Credits: 3

- INST 4340 - International Organizations Credits: 3

OR

- POLS 4340 - International Organizations Credits: 3
- INST 4370 - Global Political Economy Credits: 3

OR

- SOC 4370 - Global Political Economy Credits: 3

Electives: 9 Hours Max (3 Courses)

- ECON 1000 - Global Economic Issues Credits: 3

- COMM 1030 - Interpersonal Communication Credits: 3

OR

COJO 1030 - Interpersonal Communication Credits: 3

- COMM 1040 - Intro to Communication Theory Credits: 3

OR

COJO 1040 - Intro to Communication Theory Credits: 3

- MGT 2010 - Legal Environment of Business Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- CNSL 2200 - Introduction to Student Leadership Credits: 2
- STAT 3050 - Statistical Methods Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- COJO 3190 - Cross-Cultural Communication Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3

OR

- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- ANTH 4340 - Culture Change Credits: 3

OR

- INST 4350 - Culture Change Credits: 3

- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3

Additional Information

The Department of Criminal Justice offers a Pre-Law Concentration for Criminal Justice majors that consists of courses selected from several departments across the university. These courses were chosen to help prepare students for the challenges of law school and the practice of law. Students electing the Pre-Law Concentration are urged to seek advising early.

The Pre-Law Concentration requires 27 credit hours - 18 of which must be 3000-level or above. All coursework must be completed with a grade of C or better to be counted toward the concentration.

Sociology, B.A.

Sociology is the study of the development, interaction, and behavior of organized human groups. Sociology provides powerful insights into the social processes that shape our lives, the problems we face, and the possibilities we can envision.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Arts & Sciences College Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

Students must complete all Foundation Courses with a grade of C or better.

- SOC 1000 - Sociological Principles Credits: 3
- SOC 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4
- SOC 2465 - Research Methods Credits: 3
- SOC 4715 - Sociological Theory Credits: 3

Core Courses:

Students must complete four courses from the following list with a grade of C or better.

- SOC 2350 - Race and Ethnic Relations Credits: 3
- SOC 3110 - Self and Society Credits: 3
- SOC 3140 - Sociology of the Family Credits: 3
- SOC 3200 - Sociology of Religion Credits: 3
- SOC 3400 - Deviant Behavior Credits: 3
- SOC 3500 - Sociology of Gender Credits:
- SOC 3550 - Medical Sociology Credits: 3
- SOC 3605 - Sociology of Education Credits: 3
- SOC 3640 - Social Inequality Credits: 3
- SOC 3880 - Political Sociology Credits: 3
- SOC 3910 - Global Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3

Elective Courses

Students must complete 9 additional hours of sociology courses with a grade of C or better. Electives may be used either to develop additional expertise in an area of interest or to broaden the student's sociological training.

Minor

Criminal Justice Minor

Criminal Justice is a social science that examines the causes and impacts of crime in society. A minor in criminal justice requires 18 semester hours in criminal justice. All courses must be completed with a grade of C or better.

Required Courses

- CRMJ 1001 - Introduction to Criminal Justice Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3

- CRMJ 2400 - Criminology Credits: 3

  OR
- SOC 2400 - Criminology Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 3350 - Correctional Theory and Practice Credits: 3
- CRMJ 3490 - Issues in Policing Credits: 3

Interdisciplinary Pre-Law Minor

The minor requires 18 hours to be completed from among the following courses. Of these 18 hours, 12 must be upper division (3000 or 4000 level). In addition, 12 of the 18 hours must be outside the student's primary major, and none of these courses may be credited toward both the minor and the USP requirement. Complete one course from each of the following categories. All coursework must be completed with a grade of C or better to counted toward the minor.

Language Comprehension & Expression: 3 Hours

- COMM 1030 - Interpersonal Communication Credits: 3

  OR

  COJO 1030 - Interpersonal Communication Credits: 3

- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3160 - Theory of Language and Society Credits: 3
- COJO 4061 - Rhetorical Theory and Criticism Credits: 3

  OR

- ENGL 4061 - Rhetorical Theory and Criticism Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- ANTH 4795 - Language Change Credits: 3

Written Comprehension & Expression: 3 Hours

Any course with a USP designation of C3 may be counted in this area. However, no C3 course may be counted twice toward fulfilling this category and the USP C3 requirement or another category within the prelaw minor.

Critical Understanding of Human Institutions & Values: 3 Hours

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3500 - History of Science Credits: 3
- POLS 4051 - Environmental Politics Credits: 3

  OR
- AMST 4051 - Environmental Politics Credits: 3

  OR
- ENR 4051 - Environmental Politics Credits: 3

  OR
- GEOG 4051 - Environmental Politics Credits: 3

  OR
- REWM 4051 - Environmental Politics Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- AAST 4260 - Rhetoric and Social Justice Credits: 3

  OR
- COJO 4260 - Rhetoric and Social Justice Credits: 3
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

Creative & Analytical Thinking: 3 Hours

- CW 2050 - Introduction to Fiction Credits: 3
- CW 2060 - Introduction to Nonfiction Credits: 3
- CW 2080 - Introduction to Poetry Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3

- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3

OR

- CRMJ 4230 - Forensic Anthropology Credits: 3

- PHIL 4420 - Advanced Logic Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3

World Cultures & International Institutions: 3 Hours

- HIST 1330 - World History since 1500 Credits: 3
- ANTH 2200 - World Culture Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- ANTH 3420 - The Anthropology of Global Issues Credits: 3

OR

- INST 3420 - The Anthropology of Global Issues Credits: 3
- INST 3910 - Global Sociology Credits: 3

OR

- SOC 3910 - Global Sociology Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3

- INST 4340 - International Organizations Credits: 3

OR

- POLS 4340 - International Organizations Credits: 3

Law: 3 Hours

- MGT 2010 - Legal Environment of Business Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3

- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3

OR

- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- HIST 4515 - American Legal History Credits: 3
- CRMJ 4540 - Gender and Crime Credits: 3

OR

- GWST 4540 - Gender and Crime Credits: 3
- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3

OR

- PSYC 4730 - Psychology and Law Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3

Sociology Minor

Sociology is the study of the development, interaction, and behavior of organized human groups. Sociology provides powerful insights into the social processes that shape our lives, the problems we face, and the possibilities we can envision.

Requirements

The sociology minor requires a total of 18 sociology credits including SOC 1000. At least 9 of these 18 hours must be upper-division sociology credits.

Only grades of C or better can be counted toward the minor. Also, students seeking a minor must have 12 credit hours exclusive to the minor and not counted toward their major.

Graduate

Criminal Justice Concentration within the M.P.A.

The Master of Public Administration Program with Criminal Justice Concentration is a professional degree designed for current and future leaders in the criminal justice field.

Plan B (Non-Thesis)

A criminal justice concentration within the master of public administration program is offered by the Criminal Justice program. Students wishing to enroll in the M.P.A. with criminal justice concentration must first be admitted into the M.P.A program. See M.P.A. program admissions requirements for specific details.

The M.P.A. with criminal justice concentration curriculum consists of 39 credits including: 24 hours of core credit; criminal justice (4) courses; and one additional approved elective course. Students may complete the degree within two years full-time or approximately three-four years part-time. Courses are offered through distance education, which allows students to complete their degree in their community while working full-time.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/ electronic class discussion.

Students must maintain a graduate GPA of 3.000.

MPA Required Core Courses

Thirty-nine hours of graduate credit, to include:

- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5400 - Public Personnel Management Credits: 3
- PBAD 5410 - Administrative Behavior and Theory of Organization Credits: 3
- PBAD 5440 - Principles and Processes of Government Budgeting Credits: 3
- PBAD 5480 - Ethics In Government Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- PBAD 5684 - Empirical Analysis for Public Administration Credits: 3
- POLS 5690 - Capstone in Public Management Credits: 3

Criminal Justice Concentration Courses

Required Criminal Justice Concentration Courses

- CRMJ 5000 - Survey of Criminal Justice Credits: 3
- CRMJ 5100 - Public Policy and Crime Credits: 3

Elective Criminal Justice Concentration Courses

*Students with little or no administration and/or criminal justice professional experience must enroll in CRMJ 5500 as one of their electives.

(students must select two of the following courses)

- CRMJ 5151 - Crime Causation Credits: 3
- CRMJ 5280 - Comparative Criminal Justice Credits: 3
- CRMJ 5500 - Internship in Criminal Justice Credits: 3 *
- CRMJ 5540 - Gender and Crime Credits: 3
- CRMJ 5590 - Green Criminology Credits: 3
- CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law Credits: 3

Approved Elective Credit

One additional approved MPA elective course is required. For additional options, contact the MPA director.

- POLS 4052 - Federal Land Politics Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- POLS 5051 - Environmental Politics Credits: 3
- CNSL 5060 - Counseling Ethics and Professional Issues Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 5450 - Administrative Regulation Credits: 3
- PBAD 5460 - Public Administration and Law Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- PBAD 5500 - Internship in Public Administration Credits: 1
- EDRE 5530 - Introduction To Research Credits: 3

- POLS 5530 - USCongress Credits: 3
- PBAD 5540 - Public Policy Perspectives Credits: 3
- PBAD 5560 - Public Administration in Literature and Film Credits: 3
- POLS 5600 - Political Violence Credits: 3
- POLS 5685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- POLS 5810 - Seminar in Political Philosophy Credits: 3

Department of English

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/english
Department Chair: Kelly Kinney

Professors:

SUSAN ARONSTEIN, B.A. Seattle Pacific University 1980; M.Sc. Edinburgh University 1984; Ph.D. Stanford University 1987; Professor of English 2006, 1987.

KENT G. DRUMMOND, B.A. Stanford University 1980; M.B.A. Northwestern University 1982; Ph.D. University of Texas, Austin 1990; Professor of English 2019, 1990.

CAROLINE McCRACKEN-FLESHER, M.A. University of Edinburgh 1980; M.A. Brown University 1986; Ph.D. 1989; Professor of English 2004, 1989.

TRACEY OWENS PATTON, M.A. Colorado State University 1996; Ph.D. University of Utah 2000; Professor of English 2022.

Associate Professors:

CAROLYN ANDERSON, B.A. Auckland University 1981; M.A. 1984; Ph.D. Stanford University 1992; Associate Professor of English 2001, 1993.

MICHAEL EDSON, B.A. Virginia Tech University 2003; M.A. University of Delaware 2005; Ph.D. 2011; Associate Professor of English 2020, 2014.

SCOTT HENKEL, B.A. Western Michigan University 1997; M.A. Ohio University 2000; Ph.D. Michigan State University 2007; Associate Professor of English 2018, 2015.

KELLY KINNEY, B.A. Purdue University 1992; M.A. University of Nebraska-Omaha 1996; Ph.D. Ohio University 2005; Associate Professor of English 2015.

MICHAEL KNIEVEL, B.A. Creighton University 1995; M.A. 1997; Ph.D. Texas Tech University 2002; Associate Professor of English and Co-Director of Writing Program 2022, 2009, 2002.

CLIFFORD J. MARKS, A.B. University of Michigan 1983; M.A. State University of New York, Buffalo 1988; Ph.D. 1992; Associate Professor of English 2000, 1993.

JULIA OBERT, B.A. University of Western Ontario 2004; M.A. University of British Columbia 2006; Ph.D. University of California, Irvine 2011; Associate Professor of English 2016, 2011.

PETER PAROLIN, B.A. University of British Columbia 1988; M.A. University of Pennsylvania 1991; Ph.D. 1997; Associate Professor of English 2003, 1997.

JASON THOMPSON, B.A. Pacific Lutheran University 1996; MFA University of Arizona 2000; Ph.D. 2008; Associate Professor of English 2015, 2008.

ARIELLE ZIBRAK, B.A. University of Rochester 2003; M.A. Boston University 2007; Ph.D. 2013; Assistant Professor of English 2020, 2014.

NANCY SMALL, B.A. Texas A&M University 1992; M.A. 1994; Ph.D. Texas Tech University 2014; Associate Professor of English 2022, 2017.

Senior Lecturers:

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

RICK FISHER, B.A. University of Wyoming 2002; M.A. 2006; Ph.D. 2018; Senior Lecturer in English 2020, 2015, 2011.

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

JOYCE STEWART, B.A. Felician College 1994; M.A. Creighton University 1998; Senior Lecturer in English 2018, 2008.

Assistant Lecturers:

ASHLEY M. BURCHETT, B.A. The College at Southeastern 2016; M.A. North Carolina State University 2018; Assistant Lecturer in English and Co-Director of Writing Program 2022, 2019.

ALLISON GERNANT, B.A. Grinnell College 1996; M.A. University of Wyoming 2005; Assistant Lecturer in English & LeaRN 2015.

Study in the English department today emphasizes composition, literature, and rhetoric, creative and expository writing, and the nature and workings of language. Students in the department's programs can learn to read with pleasure and understanding, to write with grace, clarity and force, and to think with greater depth and breadth. With these accomplishments, students are prepared for lives and work in which their power to understand, read, write and communicate will serve themselves and others, some specifically in careers in writing or teaching, some in professions of law, medicine, administration or almost any other field.

Composition, Literature, and Rhetoric are traditions that reach back through the centuries, but these intellectual traditions are continually growing and changing. New theories of language help us reshape understandings of ancient traditions and enhance our lives as critical readers and writers and creative human beings.

Assessment of English Undergraduate Learning

Through an active and ongoing assessment of our program, we have identified the following outcomes that are expected of each student graduating with a Bachelor of Arts in English. We will continue to assess our curriculum to ensure these outcomes are being met:

UW students graduating with a Bachelor of Arts in English will have demonstrated an ability to:

- Read, interpret, and write about a diverse range of texts in English, for example literature, film, digital media, and popular culture;
- Understand those texts analytically and critically;

- Understand those texts on the basis of careful close reading;
- Understand those texts through past and current literary and rhetorical theory;
- Understand that those texts are culturally constructed in time, place, and tradition;
- Understand how those texts inform culture;
- Participate in the critical and cultural discourses of English;
- Participate clearly and appropriately through multiple spoken and written forms.

English Honors Program

Requires a 3.500 GPA and a senior honors paper and defense. See the English department web site for information.

Teacher Certification

Students seeking the B.A. in English may also be certified for public school teaching by completing additional requirements set forth by the College of Education, via a concurrent major in English and English Education.

Graduate Study

The M.A. graduate program in English offers three concentrations leading to the master of arts degree: Literary Studies, Composition and Rhetoric, and Public Humanities.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of English requires that students demonstrate by means of an official transcript that they have a solid undergraduate record with course work in English. That said, the department welcomes degrees in English or other disciplines from four-year colleges or universities.

Depending on their undergraduate preparation, some successful applicants may be required to take additional or specific courses toward the English master's degree.

Candidates must submit GRE general test scores, a writing sample, a 500-word statement of purpose, a CV/resume, and three letters of recommendation.

English offers both a campus-based M.A. degree and a low-residency/online M.A. degree. Students should consult the M.A. web site or contact the department for specific admission information and deadlines for both M.A. programs.

Program Specific Graduate Assistantships

Teaching assistantships are available to qualified applicants in the campus-based M.A. degree. Full assistantships carry an annual stipend and a remission of full-time tuition and fees, and require the teaching of one course per term.

Each fall the department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia for all graduate assistants. Each assistant is assigned an experienced teacher in the department as a mentor, to be available throughout the semester for consultation on teaching and grading techniques.

Creative Writing Program

126 Hoyt Hall, (307) 766-6452
FAX: (307) 766-3189
Web site: www.uwyo.edu/creativewriting/
Program Director: Val Pexton

Professors:

ALYSON HAGY, B.A. Williams College 1982; M.F.A. University of Michigan 1985; Professor of Creative Writing 2008, 1996.

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2015.

FRIEDA E. KNOBLOCH, B.A. Cornell University 1985; Ph.D. University of Minnesota 1994; Professor of American Studies and Creative Writing 2014, 1997.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

KATE NORTHROP, B.A. University of Pennsylvania 1991; M.F.A. University of Iowa 1995; Associate Professor of Creative Writing 2008.

Senior Lecturers:

APRIL HEANEY, B.A. University of Wyoming 1998; M.A. 2000. Senior Lecturer in English and Creative Writing 2015, 2005.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Senior Lecturer in English and Creative Writing 2018, 2009.

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Senior Lecturer in English and Creative Writing 2018, 2007.

Creative Writing

We are writers. Our principles follow from what claims us as writers as we guide our students in the creation of their own work. We offer a commitment to art and to the development of community through art. We offer an immersion in making, a chance to discover, to create serious work without pretense, to collaborate, to shake off assumptions and anxieties.

To be first and foremost concerned with making does not mean we take refuge from the world. It means we begin by supporting the deepest, most intelligent engagement with what matters to us as writers. A critical distance from the literary and academic marketplaces allows us to engage with them in a more thoughtful manner once we have found our authentic calling-that which we are truly compelled to explore. Our values will never map perfectly onto the concerns of institutions, and that is good. We strive to create the finest conditions for the making of art when we remain in an eccentric orbit of our own, one that overlaps with the other orbits, yet remains, as much as possible, guided by our own principles which include:

Making: we require the serious, committed, ongoing process of writing and revision.

Range: we cultivate a diversity of taste, form, genre, experience, and background, as well as an open understanding of what might constitute professional accomplishment.

Flexibility: we invite our writers to pursue their own creative and intellectual goals, to tailor the program in individual ways.

Curiosity: we urge creative and intellectual roaming: cross-genre work, interdisciplinary study, the movement across what are usually understood as boundaries; we encourage students to imagine possibilities beyond what is already imagined for them by the program and the university.

Community: we foster an environment that sustains listening, investment in the work of others, collaboration, rigorous expectation, generosity and, at the same time, respect for solitude.

Integrity: we challenge students to engage in deep investigation, to find their intent as a writer and to commit to it fully.

Graduate Study

The Creative Writing Master of Fine Arts offers two areas of concentration: fiction and creative non-fiction.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this Catalog, the Creative Writing M.F.A. Program requires that students demonstrate by means of an official transcript that they have a solid undergraduate record. The M.F.A. program welcomes degrees in any discipline from four-year colleges or universities. Candidates submit three letters of recommendation, a writing sample consisting of no more than 25 pages of prose, a 500-word statement of purpose and a vita. Students should consult the M.F.A. web site or contact the department for specific admission information and deadlines.

Program Specific Graduate Assistantships

We are a fully-funded program, meaning that we accept only as many students as we can support with graduate assistantships. Full assistantships carry an annual stipend and tuition waiver, and require the teaching of one section per semester, or equivalent work assignment. M.F.A. students are expected to teach freshman English.

Each fall, the English department conducts a week-long orientation for new teaching assistants and a subsequent series of colloquia. Each graduate assistant is assigned to an experienced teacher in the English department as a mentor, to

be available throughout the semester for consultation on teaching and grading techniques.

Major

English, B.A.

Choose from two tracks in English: Literary Studies track or English Studies track. The former focuses on the study of literature and culture, while the latter balances literary study with courses in rhetoric and composition and professional writing.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Gateway to the English Major - 3 Hours

- ENGL 2025 - Introduction to English Studies Credits: 3

Historical Period - 12 or 15 hours

English Studies Track: 12 hours

Literary Studies Track: 15 hours

English Studies Track students take one of the following seven courses. Credits / Units: 3 or 6

Literary Studies Track students take two of the following seven courses. Credits / Units: 3 or 6

- ENGL 2340 - Native American Culture and Literature Credits: 3

- ENGL 2350 - Introduction to African American Literature Credits: 3

- ENGL 2360 - Mexican American Literature Credits: 3

- ENGL 2425 - Literatures in English I Credits: 3

- ENGL 2430 - Literatures in English II Credits: 3

- ENGL 2435 - Literatures in English III Credits: 3

- ENGL 2440 - Rhetoric & Writing Credits: 3

Take three of the following five courses: Credits / Units: 12

- ENGL 3200 - Topics in: Medieval Literature Credits: 3

- ENGL 3300 - Topics in: Renaissance Literature Credits: 3

- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3

- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3

- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Expanding the Canon - 6 Hours

A full list of courses that fulfill the Expanding the Canon requirements will be published each semester. Generally speaking, these courses will cover topics related to racial diversity, global literatures, gender, sexuality, or disability studies. ENGL 2340/2350/2360 can be taken either as an Expanding the Canon course OR as an Historical Period course. The Expanding the Canon options are always changing, but will always include the following:

- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2345 - American Indians in Hollywood Film Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3

- ENGL 2360 - Mexican American Literature Credits: 3
- ENGL 3330 - Global Shakespeare in Performance Credits: 3
- ENGL 3610 - Non-Western Women Writers Credits: 3
- ENGL 4455 - Slavery and Freedom Credits: 1-4
- ENGL 3710 - Gender: Humanities Focus Credits: 3
- ENGL 4460 - American Indian Literature Credits: 3
- ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3
- ENGL 4450 - African American Novel Credits: 3
- ENGL 4470 - Studies in Chicano Folklore Credits: 3
- ENGL 4640 - Studies in Emerging Fields and Approaches Credits: 3
- Please note that only ENGL 4640: Postcolonial Literature & Theory counts towards the Expanding the Canon Requirement **unless otherwise specified in a given semester**.

Methods - 3 Hours

Chose the methods course that corresponds with your track.

Literary Studies Track:

- ENGL 3000 - Literary Theory Credits: 3

OR

English Studies Track:

- ENGL 3010 - Approaches to Rhetoric, Composition Pedagogy, and Professional Writing Credits: 3

Foundations of Language - 3 Hours

This requirement is for the English Studies Track only.

- ENGL 4780 - History of the English Language Credits: 3

OR

- ENGL 4785 - Linguistics, Language Teaching and Social Context Credits: 3

OR

- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3

OR

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3

Electives - 6 hours

Literary Studies: Students can select from any of our courses for credit in this category. One of the two electives

must be in either Rhetoric & Composition or Creative Writing.

English Studies: Two courses from the list of Rhetoric/Composition/Professional Writing classes offered by English. See the examples below:

- ENGL 2005 - Writing in Technology and the Sciences (3 Credits)
- ENGL 2035 - Writing for Public Forums (3 Credits)
- ENGL 2125 - Writing Tutor Pedagogy/Practicum (3 Credits)
- ENGL 3020 - Culture, Communication, Work (3 Credits)
- ENGL 4010 - Technical Writing in the Professions (3 Credits)
- ENGL 4020 - Editing for Publication (3 Credits)
- ENGL 4025 - Writing for the Web (3 Credits)
- ENGL 4030 - Writing for Magazines (3 Credits)
- ENGL 4040 - Rhetoric, Media, and Culture (3 Credits)
- ENGL 4061 - Rhetorical Theory and Criticism (3 Credits)
- ENGL 4075 - Writing for Non-Profits (3 Credits)

Capstone - 3 Hours

Advanced standing in English is required for all majors prior to taking the senior seminar. To be eligible for advanced standing in English, the student must have completed 24 hours of English coursework above COM1, including the required 2000-level Historical Period courses. Each course must have been passed with a grade C or better. Approved transfer courses from other institutions will satisfy the prerequisites for advanced standing. ENGL 4999 should be taken in the next to last semester before graduation.

- ENGL 4999 - Senior Seminar Credits: 3

Additional Requirements

All English Education students are required to take the English Studies track. Students should consult with an advisor to declare a track in Literary Studies or English Studies before their junior year.

The English major requires 36 hours of work within the major and an additional 12 hours of a single foreign language. 21 of the hours within the major must be taken at the upper division. Only those courses in which a grade of C or better has been earned may count toward the 36 hours required for the B.A. and the foreign language requirement. No 1000-level courses count toward the B.A.

Prerequisites

Most 2000-level courses require the completion of the COM1 requirement. Normally, 3000-level courses have the COM1, ENGL 2025, and one 2000-level "broad historical sweep" course (one of ENGL 2425, ENGL 2430, ENGL 2435, ENGL 2340, ENGL 2350, ENGL 2360) as prerequisites, and 4000-level courses have 6 hours of 2000-level English courses as prerequisites. Students without certain prerequisites should consult the English department for permission to enroll.

Minor

Creative Writing Minor

The Creative Writing Minor teaches the fundamentals of creating original work while providing opportunities for the exploration of blended genres and interdisciplinary work. A minor in Creative Writing complements majors from a wide array of departments and colleges.

Creative Writing Minor

Minor in Creative Writing. The creative writing minor consists of six courses (18 hours) in creative writing and literature. Four of these courses will be in creative writing (12 hours) and must adhere to the following sequence: CW 1040 Intro to Creative Writing, two Lower Division Creative Writing courses (at the 2000-level), and an Upper Division course (4050). (excluding CW 2200 from lower-division courses). In addition, two courses will be in literature (6 hours). All courses must be completed with grades of C or better.

This minor is intended to be used with any major and must be designed in conjunction with a creative writing advisor. Each course must be passed with a grade of C or better.

Literary Studies Minor

Focuses on the study of literature, media, and culture. Courses address texts from various historical periods and regions and the work of a diverse range of voices.

Requirements

- ENGL 2025 - Introduction to English Studies Credits: 3

Historical Period Classes: 6 Hours

Take any 2 of the following historical period courses:

- ENGL 2425 - Literatures in English I Credits: 3
- ENGL 2430 - Literatures in English II Credits: 3
- ENGL 2435 - Literatures in English III Credits: 3
- ENGL 2440 - Rhetoric & Writing Credits: 3
- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3
- ENGL 2360 - Mexican American Literature Credits: 3
- ENGL 3200 - Topics in: Medieval Literature Credits: 3
- ENGL 3300 - Topics in: Renaissance Literature Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3
- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Upper Division Literature Courses: 9 Hours

Take 3 additional upper-division literature courses. Electives cannot be used for both the Historical Period requirement and this requirement. Please consult with department for options beyond this list.

- ENGL 3100 - Tribal Literatures of the Great Plains Credits: 3
- ENGL 3150 - World Literature Credits: 3
- ENGL 3200 - Topics in: Medieval Literature Credits: 3

- ENGL 3300 - Topics in: Renaissance Literature Credits: 3
- ENGL 3330 - Global Shakespeare in Performance Credits: 3
- ENGL 3340 - Philosophy in Literature Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3
- ENGL 3600 - Topics in: 20th Century Literature Credits: 3
- ENGL 3610 - Non-Western Women Writers Credits: 3
- ENGL 3710 - Gender: Humanities Focus Credits: 3
- ENGL 4080 - Film Genre Studies (TOPIC) Credits: 3
- ENGL 4070 - Film Directors: Credits: 3
- ENGL 4090 - Film and Religion Credits: 3
- ENGL 4230 - Greek Tragedy Credits: 3
- ENGL 4270 - Classical Epic Poetry Credits: 3
- ENGL 4450 - African American Novel Credits: 3
- ENGL 4455 - Slavery and Freedom Credits: 1-4
- ENGL 4460 - American Indian Literature Credits: 3
- ENGL 4470 - Studies in Chicano Folklore Credits: 3
- ENGL 4480 - Regional Literature of the US: The West Credits: 3
- ENGL 4600 - Studies in (TOPIC) Credits: 1-6
- ENGL 4640 - Studies in Emerging Fields and Approaches Credits: 3
- ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3

Professional Writing Minor

Focuses on the modes of written, oral, and digital communication that working professionals use in their fields. Courses address topics like grant-writing, writing for the web, and publication editing.

Requirements

Foundations Course: 3 Hours

- ENGL 2035 - Writing for Public Forums Credits: 3

OR

- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (COM2)

Program Electives: 6 Hours

Take any 2 of the following courses:

- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4020 - Editing for Publication Credits: 3
- ENGL 4025 - Writing for the Web Credits:
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENGL 4970 - Writing Internship Credits: 3

Other Electives: 6 Hours

Courses from any discipline that relates to professional writing; consult with a Professional Writing Minor advisor.

Professional Writing Minor Capstone: 3 Hours

- ENGL 4000 - 21st Century Issues in Professional Writing Credits:

Graduate

Creative Writing, M.F.A.

This fully-funded MFA program is dedicated entirely to prose. We teach a wide range of courses in fiction, nonfiction, and hybrid forms. We offer award-winning faculty and prepare graduates to release books with prominent commercial and small-press publishers.

Additional Information

M.F.A. students follow the guidelines for a Plan A thesis. Only those courses in which a grade of B or better has been earned may be applied to the graduate program of study. All courses must be taken for a grade unless offered for S/U only. No graduate credit is allowed for grades S and U.

The cumulative GPA must be at least 3.000 to receive a degree. Courses below 4000-level will not count toward the degree nor will they be figured in the GPA, although they will appear on the transcript.

A minimum of four Workshops (CW 5560) and/or Creative Writing Seminars (CW 5540) must be taken. These may be in any combination to reach the four-course total, typically for a total of 12-16 credit hours. We require a cross-genre component in that mix of courses.

Requirements

- Elective courses (typically taken for a total of 18 credit hours)
- ENGL 5900 - Practicum in College Teaching Credits: 1-3 taken in semesters teaching 1010, 1 credit per semester
- ENGL 5010 - Rhetoric and Composition: History, Theory, Practice Credits: 1-4 taken in the first semester teaching 1010, 3-4 credits (can be waived if a student has taken a comparable graduatelevel course in a prior program)
- Other electives: free to be taken in any UW program or department across campus
- Thesis Hours (5960): 4 credit hours

Total Credits: 36 Hours (Minimum)

Total credit hours must be a minimum of 36.

English, M.A.

Advanced graduate study in English Studies. Students can select from one of three tracks: literary studies; rhetoric, composition, and writing studies; or public humanities.

Required Courses

The following courses are required for all concentrations:

- ENGL 5010 - Rhetoric and Composition: History, Theory, Practice Credits: 1-4 Taken first semester.
- ENGL 5530 - Modern Critical Theory and Practice Credits: 1-4 Taken second semester.
- ENGL 5960 - Thesis Research Credits: 1-12 Taken third semester in classroom.

Electives

Additional coursework can be taken from the following courses.

- ENGL 5000 - Studies In: Credits: 1-8
- ENGL 5020 - Public-Facing English Studies Credits: 1-4
- ENGL 5050 - Writing in Public Genres Credits: 1-4
- ENGL 5055 - Narrative and Storytelling Credits: 1-4
- ENGL 5061 - Rhetorical Theory and Criticism Credits: 1-4
- ENGL 5062 - Ancient Rhetorics Credits: 1-4
- ENGL 5063 - Feminist Rhetorics Credits: 1-4
- ENGL 5070 - Qualitative Methods in English Credits: 1-4
- ENGL 5071 - Qualitative Analysis Credits: 1-4
- ENGL 5072 - Topics in Technical Writing Credits: 1-4
- ENGL 5073 - Topics in Rhet-Comp & Tech-Com Credits: 1-4
- ENGL 5074 - Studies in Civic Discourse Credits: 1-4
- ENGL 5075 - Non-Profit Writing and Grants Credits: 1-4
- ENGL 5220 - Studies in Medieval Literature Credits: 1-4
- ENGL 5230 - Studies in English Renaissance Literature Credits: 1-4
- ENGL 5250 - Studies in Shakespeare Credits: 1-4

- ENGL 5270 - Studies in 18c English Literature Credits: 1-4
- ENGL 5280 - Studies in 19c English Literature Credits: 1-4
- ENGL 5290 - Studies in 20c English Literature Credits: 1-4
- ENGL 5310 - Early American Literature Credits: 4
- ENGL 5320 - Studies in 19c American Literature Credits: 1-4
- ENGL 5330 - Studies in 20c American Literature Credits: 1-4
- ENGL 5340 - Intellectual Currents in Modern American Literature Credits: 1-4
- ENGL 5350 - Global Literatures in English Credits: 1-4
- ENGL 5355 - Global Englishes Credits: 1-4
- ENGL 5360 - Literatures of Diversity Credits: 1-4
- ENGL 5455 - Slavery and Freedom Credits: 1-4
- ENGL 5520 - History of Literacy Criticism: Enlightenment and 19th Century Credits: 4
- ENGL 5600 - Research in Writing Studies Credits: 1-4
- ENGL 5830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3
- ENGL 5835 - Writing Program Administration Credits: 1-4
- ENGL 5880 - Studies in Modern Fiction Credits: 4
- ENGL 5885 - Studies in Popular Culture Credits: 1-4
- ENGL 5890 - Consumption, Markets, Cultures Credits: 1-4
- ENGL 5900 - Practicum in College Teaching Credits: 1-3
- ENGL 5975 - Independent Studies Credits: 1-4

- ENGL 5964 - Thesis Writing Workshop Credits:
- ENGL 5965 - Thesis Research II Credits: 1-3

Additional Requirements

The concentration insures coherence in each student's graduate program; breadth is insured by a distribution of courses. Much of each student's program is taken in courses outside the concentration.

Literary Studies. Working from a variety of perspectives, this concentration focuses on the study of literature and of other culturally significant texts and materials, including, for example, film, oral materials, and political documents.

Rhetoric, Composition, and Writing Studies. This concentration emphasizes scholarship on the production of discourse, broadly conceived, and may include a focus on classical, contemporary, or cultural rhetoric; post-secondary writing pedagogy and program administration; community and adult literacy; or other subjects related to the field of writing studies.

Public Humanities. Designed for students who wish to pursue professions that may span beyond traditional academic work, this concentration prepares graduates for careers in civic, nonprofit, and community-based cultural organizations that engage the humanities, contribute to social reform, and promote the public good.

Minimum coursework required for Plan A Thesis: 26 hours Minimum thesis hours required: 4 hours See program website for course offerings in a given semester. All coursework must be at the 5000-level. **Minimum coursework required for Plan B Thesis (students in online program only): 30 hours coursework minimum**

Plan A Thesis: a reading list exam and a Plan A thesis with oral defense. Students may write a traditional thesis, or they may assemble a public-facing thesis portfolio. See program website for more details about thesis options.

Plan B Thesis: coursework portfolio, including pedagogical reflection essay, with oral defense.

Program Specific Admission Requirements

Those interested in graduate study in this program, are encouraged to contact the Department of English (307-766-6452, englishdept@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required.
- A minimum of three letters of recommendation from:
- current or former college/university instructor(s) of the applicant; and/or
- current or previous professional supervisor(s) of the applicant.
- A 500-word statement of purpose that contains the applicant's:
- Professional/career goals.
- Educational goals, including planned concentration.
- Statement of how the graduate program will help the applicant attain their educational and professional goals.
- Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
- Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.
- Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).
- Any special skills or competencies (including any certifications or licenses).
- List of publications, prizes, awards, or other recognitions.
- List of service/volunteer activities.
- A 10-15 page critical writing sample.

Applications must be submitted by no later than February 1 to be considered for fall admission.

GRE scores are recommended for admission, but not required. The recommended minimum cumulative GRE score for admission is 291. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. Applicants must present evidence of a satisfactory background in English coursework.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. A minimum of 605 on the Paper-based TOEFL and of 5.0 on the TWE are required. Equivalent minimums = 101 on the Internet-based TOEFL with a minimum of 25 on the writing section or 7 on the IELTS. International students with Teaching Assistantships require proof of English speaking proficiency: Advanced-Mid on OPIc or TOEFL speaking score of 23, or IELTS speaking score of 6.5, or DuoLingo average score of 105. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Applicants to the online MA program whose undergraduate cumulative GPA is below 3.0 may be considered via the

Professional Experience Track Admissions process if they have had at least two years of relevant professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog.

English, Ph.D.

The English, Ph.D. with an emphasis in the public humanities is a doctoral degree that bridges the skills in research, rhetorical analysis, critical reading, and document design traditional to English studies with a deep investment in public advocacy and community engagement.

Degree Requirements

The English PhD in the Public Humanities will be a four-year degree requiring 36 hours coursework beyond their master's coursework, plus 8 additional hours of dissertation research.

Required Courses (20 coursework credits, 8 dissertation research credits)

Students take courses in three areas: 1) working in the classroom and beyond, 2) writing and storytelling, and 3) literature, rhetoric, and culture. 20 coursework credits and 8 thesis research credits are required.

Working in the Classroom and Beyond (12 credits)

- ENGL 5011 - Professional and Technical Communication: Histories, Theories, and Public Engagement Pedagogies. 4 Credit Hours
- ENGL 5020 - Public-Facing English Studies Credits: 1-4
- ENGL 5071 - Qualitative Analysis Credits: 1-4

Writing and Storytelling (4 credits; choose one)

- ENGL 5050 - Writing in Public Genres Credits: 1-4
- ENGL 5075 - Non-Profit Writing and Grants Credits: 1-4

Literature, Rhetoric, and Culture (4 credits; choose one)

- ENGL 5062 - Ancient Rhetorics Credits: 1-4
- ENGL 5063 - Feminist Rhetorics Credits: 1-4
- ENGL 5065 - Black American Rhetorics Credits: 1-4
- ENGL 5074 - Studies in Civic Discourse Credits: 1-4
- ENGL 5220 - Studies in Medieval Literature Credits: 1-4
- ENGL 5230 - Studies in English Renaissance Literature Credits: 1-4
- ENGL 5250 - Studies in Shakespeare Credits: 1-4
- ENGL 5270 - Studies in 18c English Literature Credits: 1-4
- ENGL 5280 - Studies in 19c English Literature Credits: 1-4
- ENGL 5290 - Studies in 20c English Literature Credits: 1-4
- ENGL 5310 - Early American Literature Credits: 4
- ENGL 5320 - Studies in 19c American Literature Credits: 1-4
- ENGL 5330 - Studies in 20c American Literature Credits: 1-4
- ENGL 5350 - Global Literatures in English Credits: 1-4
- ENGL 5360 - Literatures of Diversity Credits: 1-4
- ENGL 5455 - Slavery and Freedom Credits: 1-4
- ENGL 5885 - Studies in Popular Culture Credits: 1-4
- ENGL 5890 - Consumption, Markets, Cultures Credits: 1-4

Other Required Credits (12 credits)

- ENGL 5900 - Practicum in College Teaching Credits: 1-3
- ENGL 5960 - Thesis Research Credits: 1-12
- ENGL 5965 - Thesis Research II Credits: 1-3

Elective Courses (12 coursework credits; up to 8 credits outside English)

12 credits are available for electives, selected in consultation with the student's advisor and committee. At least 4 and up to 8 credits will be from units outside English. Electives aim to introduce methods and concepts from multiple disciplines and public-facing fields of study with both community and/or global relevance. When resources permit, students will be

advised to enroll in courses such as the following, pending home-department approval and faculty interest.

- ENGL 5000 - Studies In: Credits: 1-8
- AMST 5020 - American Folklife Credits: 3
- AMST 5200 - Material Culture Credits: 3
- AMST 5300 - American Culture and the Public Sector Credits: 3
- AMST 5800 - Historic Preservation Credits: 3
- ENR 5870 - Graduate Seminar Credits: 1
- HIST 5630 - Seminar on Western American History Credits: 3
- HIST 5645 - Seminar on American Indian History Credits: 3
- LTST 5650 - Women, Gender & Migration Credits: 3
- NAIS 5110 - Foundations of American Indian Education Credits: 3
- NAIS 5141 - Instructional Methods of American Indian Education Credits: 3
- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- STAT 5220 - Advanced Design Credits: 3

Department of History

History

History Building

(307) 766-5101

Website: www.uwyo.edu/history

E-mail: uwhistory@uwyo.edu

Department Chair: Jeffrey Means

Professor:

RENEE LAEGREID, B.A. Washington State University 1982; M.A.L.S. Wesleyan University 1994; Ph.D. University of Nebraska 2002; Professor of History 2015, 2012.

Associate Professor:

ISADORA A. HELFGOTT, B.A. Swarthmore College 1994; A.M. Harvard University 1997; Ph.D. 2006; Associate Professor of History 2015, 2009.

ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Assistant Professor of History and Anthropology 2014.

JEFFREY D. MEANS, B.A. Grand Canyon University 1995; M.A. University of Montana 2001; Ph.D. University of Oklahoma 2007; Associate Professor of History 2013, 2007.

Assistant Professor:

ADAM BLACKLER, B.A. Carroll College 2006; M.A. University of Wyoming 2009; Ph.D. University of Minnesota - Twin Cities 2017; Assistant Professor of History 2018.

BARBARA E. LOGAN, B.A. Queens College, CUNY 1986; Ph.D. University of California-Santa Cruz 2002; Assistant Professor of History 2018, 2011.

MELISSA MORRIS, B.A. Miami University 2004; M.A. Miami University 2010; Ph.D. Columbia University 2017; Assistant Professor of History 2018.

PETER WALKER, B. A. University of Oxford 2008; M. Phil. University of Oxford 2010; Ph. D. Columbia University 2016; Visiting Assistant Professor of History 2019.

Adjunct Faculty:

MICHAEL J. DEVINE, B.A. Loras College 1967; M.A. Ohio State University 1968; Ph.D. 1974; Adjunct Professor of History, 2014, 1991.

Professors Emeriti:

Eric D. Kohler, William H. Moore, Phil Roberts

History Program

History is a foundational discipline that blends the methodologies and perspective of the humanities and social sciences in order to engage with the history of human culture on a global scale. UW's History degree program emphasizes interdisciplinary teaching and research and provides course

work, research experiences, and internships on both American and international topics. The History program offers a Bachelor of Arts degree major, minor, Public History Concentration, and a Master of Arts degree.

The study of History at the University of Wyoming provides students with the tools to comprehend the present in order to prepare for the future. Challenging courses are designed to facilitate critical thinking and the development of analytical skills. Each of our courses features the discussion of complex issues, the development of writing and reading skills, and is generally oriented toward promoting individual enrichment. The professional skills that the History program instills transcend our field and allow students to work toward a variety of career choices such as business, law, government service, public history, archives and museum work, education, management, writing, and graduate studies. The ability to develop perspective, render informed judgments, and function as productive citizens of the global community stand as hallmarks of our program.

Learning Outcomes

It is the goal of the History department that our graduates have the following skills and knowledge:

- Students shall be able to demonstrate thinking skills by analyzing, synthesizing, and evaluating historical information from multiple sources.
- Students will develop the ability to distinguish between fact and fiction while understanding that there is no one historical truth.
- Students will produce well-researched written work that engages with both primary sources and the secondary literature.
- Students will develop an informed familiarity with multiple cultures.
- Students will employ a full range of techniques and methods used to gain historical knowledge.
- Students will develop an ability to convey verbally their historical knowledge.
- Students will demonstrate their understanding of cause and effect along with their knowledge of the general chronology of human experience.

Major

History, B.A.

A History B.A. provides the skills needed to succeed in any job, public history, archive and museum work, law, education, business and more. Skills mastered include critical thinking, multi-perspective analysis, and written and oral communication.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

History Requirements

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements - including the language requirement - must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department

of Languages - Modern and Classical. This requirement may be satisfied by American Sign Language.

Two Required Courses: 6 Hours

- HIST 3020 - Historical Methods Credits: 3

AND

- HIST 4030 - Senior Capstone Seminar Credits: 3

Elective: Any Level: 3 Hours

One additional History course at any level.

Lower-Division Electives: 12 Hours

Lower-Division courses are 1000 and 2000 level courses.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3

- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3

Upper-Division Electives: 15 Hours

Upper-Division courses are 3000 and 4000 level courses.

- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3

- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

History, Public History Concentration, B.A.

Want work in a museum, historical site, park, archive, historical consulting firm, establishing and operating archives and records management systems for private businesses, state agencies, or universities, and more? Then public history is for you.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Public History Concentration

Combined with the History B.A. requirements (below,) students can declare a Public History Concentration. The History B.A. requires a minimum of 36 credit hours in History courses, and 18 of those can qualify to meet the Public History Concentration requirements. The Public History Concentration requires a minimum of 18 hours of History coursework that may be tailored for individual student career goals.

Specific course requirements for the Public History Concentration are as follows:

Required Courses for Public History Concentration

HIST 2050 - Introduction to Public History

HIST 2070 - Introduction to Museology

HIST 3020 - Historical Methods

HIST 4400 - Internship

Elective courses for Public History Concentration

2 of the following courses:

HIST 4055 - Archival Research Methods

HIST 4077 - Book History: Topics

HIST 4315 - History, Politics and Memory of the Holocaust in Europe

HIST 4320 - Memory and National Identity in Twentieth Century Europe

HIST 4400 - Internship (Students are allowed 2 Internship courses if approved by an advisor)

History BA Requirements

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements - including the language requirement - must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department of Languages - Modern and Classical. This requirement may be satisfied by American Sign Language.

Two Required Courses: 6 Hours

- HIST 3020 - Historical Methods Credits: 3

AND

- HIST 4030 - Senior Capstone Seminar Credits: 3

Elective: Any Level: 3 Hours

One additional History course at any level.

Lower-Division Electives: 12 Hours

Lower-Division courses are 1000 and 2000 level courses.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3

- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3

Upper-Division Electives: 15 Hours

Upper-Division courses are 3000 and 4000 level courses.

- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3

- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

Minor

History Minor

Only 18 credit hours of classes to learn professional skills vital to any career. Critical thinking, effective written and oral communication, and multi-perspective analysis highlight History's benefits in whatever profession you pursue.

Requirements

The history minor requires at least 18 credit hours of History courses, 9 hours of which must be Upper-Division (3000 and 4000 level) courses. These courses must be taken for letter grades with a minimum earned grade of C. For assistance in tailoring the minor content, contact the Department of History.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3

- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3
- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3

- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

Graduate

History, M.A.

Wyoming's M.A. in history will open both professional and academic pathways. A student may pursue this degree as the final step in their educational journey or go on to pursue a

doctoral degree and, eventually, a teaching or research position.

Program Specific Admission Requirements

General Regulations

The M.A. in History requires 18 hours of undergraduate history courses as minimum p
rules under which the student enters remain those governing the program for the durati
enrollment. In accordance with university graduate regulations, students are responsibl
for fulfilling all requirements for the degree.

Application and Admissions

To be eligible for financial support in the form of a Graduate Assistantship, the Depart
materials by March 1. All other application materials must be received by the Departm
1. The application process is now completely online. In addition to the application, app
following documents via the UW Admissions website (www.uwyo.edu/admissions):

- Three letters of recommendation that assess the student's academic and research abil
- Transcripts from all undergraduate institutions and graduate programs.
- A writing sample of 10-20 pages, typically either a portion of a senior thesis or an up
- A statement of purpose of 250-500 words, explaining the applicant's preparation, int

if you would like to be considered for a graduate assistantship.

Program Specific Graduate Assistantships

When applicants submit their materials to the program in History, they should indica
a Graduate Assistantship. Anyone receiving financial support must be registered as a
student and must be making acceptable progress towards degree completion. Renewa
contingent on such progress. Support is not given for more than two academic years.

Requirements

Program Specific Degree Requirements for the History Master's Program are as follows:

Required Courses

Candidates for the Master of Arts degree are expected to complete the program in 2 years. Graduate Students are required to complete a minimum of 31 credit hours of graduate (5000) level courses. Students must complete 27 hours of coursework, of which at least 24 hours must be in History. Students will work with their advisor to plan the course of study that will include:

(3 credit hours) HIST 5880 - History Theory

(12 credit hours) 5000-level, non-dual-listed courses in HIST (excluding HIST 5880)

(12 credit hours) Additional graduate-level course work, of which at least 9 credit hours must be in HIST courses.

(4 credit hours) HIST 5960 - Thesis Research

Foreign Language

Students must demonstrate a reading knowledge of a foreign language appropriate to their research. In special cases, other relevant historical tools may substitute for the language requirement upon approval of the thesis adviser and the Graduate Coordinator. Generally, either of the following options may meet the language requirement:

- Passing a language exam administered by the Department of History. This must be completed by the end of the first year with the appropriate faculty.
- Completing the equivalent of the fourth semester of a language as offered at the University of Wyoming. All courses must be passed with a grade of C or better (may be taken pass/fail).

Thesis

- Graduate students will identify two "fields" of study, in consultation with their main advisor: one time/place field (such as Modern U.S. History), and one thematic field (such as Environmental History), both of which correspond to the student's thesis research.
- In the spring semester of the first year the student will publicly defend his/her thesis proposal, which must include a written research prospectus and bibliography.
- At the end of the second year the student will successfully defend the thesis before an approved Graduate Committee.

Department of Languages - Modern and Classical

116 Hoyt Hall, (307) 766-4177
FAX: (307) 766-2727
Website: www.uwyo.edu/modlang
Department Chair: Joy Landeira

Professor:

CONXITA DOMÈNECH, B.A. Universitat Autònoma de Barcelona 1990; Licenciatura 1992; M.A. University of

Colorado Boulder 2006; Ph.D. 2010; Professor of Spanish 2020.

JOY LANDEIRA, B.A. University of Wyoming 1973; M.A. 1975; Ph.D University of Colorado, Boulder 1981. Professor of Spanish 2015. Department Chair.

Associate Professors:

EKATERINA ALEXANDROVA, B.A. Saint Joseph's University 2003; M.A. Dartmouth College 2004; Ph.D. University of Pennsylvania 2012; Associate Professor of French 2018, 2012.

IRENE CHECA-GARCÍA, B.A. University of Granada 1997; M.A. Linguistics University of Granada 2000; Ph.D. Universidad de Alemería 2004; Associate Professor of Spanish 2018, 2012.

REBECCA E. STEELE, B.A. LeibnitzAcademie 2001; M.A. Rutgers, The State University of New Jersey 2008; Ph.D. 2009; Associate Professor of German 2015, 2009.

KHAMA-BASSILI TOLO, G3: Gradué en Pédagogie Appliquée, Option: FrancaisLinguistique Africaine, Université Nationale du Zaire 1976; L2: Licencié en Pédagogie Appliquée, Option: Francais, 1978; M.A. Vanderbilt University 1986; Ph.D. 1989; Associate Professor of French 1996, 1990.

Assistant Professors:

CHELSEA ESCALANTE, B.A. Stanford University 2005; M.A. University of Arizona 2009; Ph.D. University of California, Davis 2018; Assistant Professor of Spanish 2018.

SONIA RODRIGUEZ HICKS, Ph.D. University of New Mexico 2017. Assistant Professor of Spanish 2020.

Senior Academic Professional Lecturers:

LAURA DE LOZIER, B.A. Beloit College 1990; M.A. University of Wisconsin 1992; Ph.D. 2002; Senior Academic Professional Lecturer in Classics, Greek, and Latin 2014, 2003.

BÉNÉDICTE SOHIER, B.A. Stephen F. Austin State University 2006; M.A. Indiana University Bloomington

2008; Associate Academic Professional Lecturer in French 2015, 2009.

YAN ZHANG, B.A. Harbin Institute of Technology 2000; M.A. Heilongjiang Provincial Academy of Social Sciences 2002; Senior Academic Professional Lecturer in Chinese 2016, 2006.

Assistant Lecturers

NOAH MILES, B.A. University of Iowa 2005; M.A. University of Iowa 2007; Assistant Lecturer in Japanese 2022.

ADRIANA NOYA-SALGUIERO, B.A. Universidad Complutense de Madrid 1991; M.A. Universidad Complutense de Madrid 1993; M.A. University of Wyoming 2017; Assistant Lecturer in Spanish 2022.

Professors Emeriti:

M. Ian Adams, Lewis Bagby, Lowell A. Bangerter, Klaus D. Hanson, Francis S. Heck, Philip G. Holt, Joseph Krafczik, Hannelore Mundt, Jean-Louis G. Picherit, Duane Rhoades, Pavel Sigalov. Mark W. Person.

The Modern and Classical Languages department offers work leading to the B.A. degree with majors and minors in French, German, and Spanish. A minor is offered in Classical Civilizations, Chinese, Latin and Japanese. The M.A. is available in Spanish. Courses are also offered in literature, linguistics and translation.

Foreign Language Requirements

All candidates for the B.A. and B.S. degree in the College of Arts and Sciences who matriculated before Fall 2015 are required to complete the equivalent of 8 semester hours of work in a single modern or classical language. Students with prior exposure to the language may be granted college credit after taking an online examination administered by the department; students must take this examination before completing registration for a language course (for regulations governing credit by examination, refer to Credit Available to Undergraduate Students in this *Catalog*). An advanced placement, AP, examination in the language with a score of 4 or higher satisfies the language requirement in most

languages, as do CLEP and IB scores (see section on Credit by Examination on the department website).

Students who have had a foreign language in high school should take the online examination to determine the course in which they should enroll and to avail themselves of the opportunity to receive credit by examination. Students who have completed their language requirement can enroll for additional language courses of their choice, something strongly advised for those who wish to reach adequate levels of proficiency in the language or wish to study abroad. Check the Catalog or website for special sections targeted for students with varied experiences in the language.

Undergraduate Major

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Students completing an undergraduate major in our department will meet the following learning goals:

- attain proficiency in another language in all four of the basic skills (speaking, listening, reading, and writing);
- gain understanding of other cultures; and
- develop skills in research critical thinking, analysis, and writing on subjects appropriate to the field of study.

Students will meet the following learning outcomes to:

- demonstrate proficiency in conversation;
- demonstrate reading comprehension of texts written in the language;
- produce grammatical, idiomatic compositions in the target language;
- gain essential knowledge about the history, traditions, customs, and ways of thinking of at least one other culture;
- demonstrate understanding of works of literature read in the original language; and
- produce well-reasoned and clearly articulate research papers on subjects appropriate to their field.

Minor

In general, students desiring to complete a minor in a foreign language will be required to complete a program of 18 semester hours above 2030.

Teaching Certification

For those wishing to pursue teaching certification, contact the Department of Secondary Education.

Native Language Credit

Students are not allowed university credit for language courses in their native language below the 4000 level, but may receive credit for literature courses below that level.

Study Abroad

There are many opportunities for students to study abroad and students are encouraged to do so.

Graduate Study

The Department of Modern and Classical Languages offers programs leading to the master of arts degree in Spanish. Contact the department for further details or check the department website.

Program Specific Admission Requirements

Admission to the graduate program in a specific language is open to students who have completed an undergraduate major, or the equivalent, in the same subject and who meet the minimum requirements set forth in this *Catalog*.

Students entering the graduate program from other institutions may be required to make up deficiencies in areas covered by required courses in this department's undergraduate programs.

Major

European Languages, Literature and Film Studies, B.A.

The BA European Languages, Literature and Film Studies curriculum builds upon existing UW language minors and

established humanities coursework in French, German, and Spanish.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

C2 - Communication 2 Options:

- FREN 3050 - Third Year French I Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3 OR INST 2280
- SPAN 3050 - Third Year Spanish I Credits: 3
  OR
  SPAN 3030

C3 - Communication 3 Options:

- FREN 4200 - Introduction to Research Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Required Interdisciplinary Coursework that all Majors Take = 12 Credits

Taught in English with bilingual option taught in English and the target language.

- HIST 2280 - Introduction to European Studies Credits: 3 (Cross-listed with INST 2280)
  OR

- HIST 4990 - Topics in _____ Credits: 1-6

- LANG 1000 Intro to Film Studies (3 credits)
- LANG 4300 Fundamentals of Linguistics for Non-Linguists (3 credits)
- LANG 4800 Advanced Instruction in Film Studies (3 credits)

FRENCH TRACK-- 30 Credits of French Coursework (plus USP Com 2 and Com 3)

- FREN 1010 - First Year French I Credits: 4
- FREN 1020 - First Year French II Credits: 4
- FREN 2030 - Second Year French I Credits: 4
- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3

GERMAN TRACK: 30 credits of German Coursework, 3 courses of which are in residency

- GERM 1010 - First Year German I Credits: 4
- GERM 1020 - First Year German II Credits: 4
- GERM 2030 - Second Year German I Credits: 4
- GERM 2040 - Second Year German II Credits: 3
- Plus 9 credits of 3000+level German Electives
- Plus 5 credits of German Electives (could incl: GERM conversation, LANG 2000 GERM for Specific Purposes, LANG 4800 WLD or SPARK Internship. Up to 16 credits can be earned in Study Abroad in place of required coursework.)

SPANISH TRACK: 31 credit hours of Spanish Coursework (plus USP Com 2 and Com 3 listed above)

- SPAN 1010 - First Year Spanish I Credits: 4
- SPAN 1020 - First Year Spanish II Credits: 4
- SPAN 2030 - Second Year Spanish I Credits: 4

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 2140 - Introduction to Reading Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4180 - Advanced Cultural Studies in Hispanic Lit/Media Credits: 3

Recommended Elective Courses

Interdisciplinary European coursework taught in English or target language, with bilingual option

- CLAS 4990 - Topics in Classical Civilization Credits: 1-4
- CLAS 4230 - Greek Tragedy Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- GERM 1101 - First-Year Seminar Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6
    *HIST 4990 Nazi Germany and the Holocaust (3 credits)
    *HIST 4990 Europe after 1945 (3 credits)
    *HIST 4990 Weimar Germany: Hope and Tragedy (3 credits)
- INST 2200 - Politics of Europe Credits: 3 OR POLS 2200
- INST 4215 - European Union Credits: 3
- INST 4315 - History, Politics and Memory of the Holocaust in Europe Credits: 3
- LANG 2000 Intro to Languages for Specific Purposes (3 credits)
- LANG 3000 Language for Specific Purposes-Variable Topics (3 credits)
- LANG 4800 World Language Day (up to 3 credits) LANG 4800 Día de los muertos (up to 3 credits)

- LANG 4800 European folk tales (3 credits) LANG 4800 Masterpieces of European Literature in Translation (3 credits)
- LANG 4800 Advanced Study in German Conversation (up to 5 credits)
- LANG or SPAN 1101 FYS-The Linguistics of Food (3 credits)
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- SPAN 3100 - Survey of Spanish Literature Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- THEA 1000 - Introduction to Theatre, TV & Film Credits: 3

Total Credit Hours: 121 Credits

French, B.A.

The main goal of French courses will be to emphasize "the development of communication skills in French through the four language skills: listening, speaking, reading, and writing". Each course introduces students to French and Francophone cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites - 12 Credits

- FREN 1010 - First Year French I Credits: 4

- FREN 1020 - First Year French II Credits: 4
- FREN 2030 - Second Year French I Credits: 4

A language major requires 30 hours of credit in a single language above 2030

Required Courses

- FREN 2040 - Second Year French II Credits: 3
- FREN 2130 - Contemporary French Culture Credits: 3

OR

- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- Plus 6 hours of electives in French at the 4000-level (See Electives list in Minor Requirements)

Minor Program Requirements - 18 Credit Hours

Required Minor Classes

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- Electives - 9 hours of French Courses at the 3000 course level or 4000 course level (Choose from Elective list below)
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 3990 - Independent Study Credits: 1-4
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- FREN 4120 - Medieval French Literature Credits: 3
- FREN 4140 - 17th Century French Literature Credits: 3

- FREN 4200 - Introduction to Research Credits: 3
- FREN 4250 - 19th Century French Literature Credits: 3
- FREN 4260 - 20th Century French Literature Credits: 3
- FREN 4350 - Studies in French and Francophone Literatures Credits: 3
- FREN 4990 - Advanced Independent Study Credits: 1-3

German, B.A.

As a German Major, you will develop your speaking, listening, and communication skills as a German speaker. You will gain a better understanding of perspectives and experiences of German speaking cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses - 9 credits

A language major requires 30 hours of credit in a single language above 2030.

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Electives - 21 credits

All electives must be above GERM 2030. At least three courses should be at the 4000-level.

- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 3990 - Independent Study Credits: 1-4
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4100 - A Survey of German Literature I Credits: 3
- GERM 4110 - A Survey of German Literature II Credits: 3
- GERM 4145 - Weimar Classicism Credits: 3
- GERM 4180 - German Poetry Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- GERM 4240 - German Literature of the Romantic Period Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- GERM 4275 - Contemporary Migration Literature Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3
- GERM 4990 - Advanced Independent Study Credits: 1-3

Spanish B.A.: Language-Linguistics Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3

OR

- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- additional 12 hours of electives above SPAN 2030.

Highly Recommended Electives

- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

It is Possible to Take

It is possible to take one class from the following:

- SPPA 3160 - Speech and Language Development Credits: 4
- ANTH 4775 - Language and Gender
Credits / Units: 3
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3

Total: 31 Hours

Spanish, B.A.

As a Spanish Major, you will develop your speaking, listening, and communication skills as a Spanish speaker. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Tracks

The undergraduate degree in Spanish has two tracks for students to select: Culture, Literature, and Cinema Track or Language-Linguistics Track.

There are multiple entry points into the major depending on previous Spanish language experience. Students should consult a Modern and Classical Languages advisor about the appropriate placement and credit-by-exam options.

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Spanish offers two major tracks:

Spanish B.A. : Culture, Literature, and Cinema Track

Spanish B.A. : Language-Linguistics Track

Prerequisites for both Spanish Tracks

- SPAN 1010 - First Year Spanish I Credits: 4
- SPAN 1020 - First Year Spanish II Credits: 4
- SPAN 2030 - Second Year Spanish I Credits: 4

Language and Linguistics Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3

- SPAN 4080 - Spanish Advanced Grammar Credits: 3

OR

- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- **PLUS** 12 hours of electives from the following:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

It is possible to take one class from the following:

- SPPA 3160 - Speech and Language Development Credits: 4
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3

Culture, Literature, and Cinema Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 2140 - Introduction to Reading Credits: 3
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3100 - Survey of Spanish Literature Credits: 3

OR

- SPAN 3110 - Survey of Contemporary Spanish Literature Credits: 3

OR

- SPAN 3120 - Survey of Spanish American Literature Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- **PLUS** 12 hours of electives from the following:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Minor

Chinese Minor

A Minor in Chinese consists of a minimum of 18 credit hours, including successful completion of 10 credit hours of Chinese language and culture courses at and above CHIN2040 on campus and 9 credit hours of an intensive summer study in China.

Prerequisites

Completion of:

- CHIN 1010 - First Year Chinese I Credits: 4
- CHIN 1020 - First Year Chinese II Credits: 4
- CHIN 2030 - Second Year Chinese I Credits: 4

Requirements

- CHIN 2040 - Second Year Chinese II Credits: 4
- CHIN 3055 - Business Chinese Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3

  Or
- CHIN 4070 - Business Chinese II Credits: 3

Study Abroad

Summer Study in China is required for completion of 9 credit hours of coursework:

- CHIN 2041 - Contemporary and Traditional Chinese Culture Credits: 3
- CHIN 3050 - Intermediate Composition and Conversation Credits: 3
- CHIN 3065 - Intermediate Composition and Conversation II Credits: 3

Total: 19 Hours

Note: Study abroad is required for completion of 12 credit hours of coursework for this minor.

Classical Civilizations Minor

As a Classical Civilizations Minor, you will develop an interdisciplinary understanding of Classical Greek and

Roman material, intellectual, and cultural traditions that have helped shape western systems and values.

Requirements

- CLAS 2020 - Classical Greek Civilization Credits: 3

  OR
- CLAS 2040 - Classical Roman Civilization Credits: 3

  OR
- HIST 2130 - Ancient Rome Credits: 3

Electives

12 hours chosen from Classics 3000-level or above; PHIL 3120, PHIL 4020, or PHIL 4030:

- CLAS 3050 - Athenian Democracy Credits: 3
- CLAS 3160 - "What Killed Socrates?" Credits: 3
- CLAS 4230 - Greek Tragedy Credits: 3
- CLAS 4270 - Classical Epic Poetry Credits: 3
- CLAS 4975 - Independent Study Credits: 1-4
- CLAS 4990 - Topics in Classical Civilization Credits: 1-4
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3

Other courses about ancient Mediterranean cultures that are not taught under Classics may be submitted for approval to the Classics section head.

Up to 6 hours of Latin at the 3000-level or above may be counted as electives:

- LATN 3110 - Vergil, The Aeneid I Credits: 3
- LATN 3120 - Vergil, The Aeneid II Credits: 3
- LATN 3140 - Caesar Credits: 2
- LATN 3150 - Livy Credits: 3
- LATN 3160 - Ovid Credits: 2
- LATN 3990 - Independent Study Credits: 1-4
- LATN 4110 - Horace Credits: 3
- LATN 4115 - Latin Philosophers Credits: 3

Total: 18 Hours

French Minor

As a French Minor, you will develop your speaking, listening, and communication skills as a French speaker. You will gain a better understanding of perspectives and experiences of French speaking cultures.

Requirements

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3050 - Third Year French I Credits: 3

Electives

- 9 hours chosen from French at the 3000 or 4000 level.
- Minors are encouraged to take one to two 4000 level courses with a traditional course load consisting of one 3000 level course and two 4000 level courses
- Elective courses include:
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 3990 - Independent Study Credits: 1-4
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- FREN 4120 - Medieval French Literature Credits: 3
- FREN 4140 - 17th Century French Literature Credits: 3
- FREN 4200 - Introduction to Research Credits: 3
- FREN 4250 - 19th Century French Literature Credits: 3
- FREN 4260 - 20th Century French Literature Credits: 3
- FREN 4350 - Studies in French and Francophone Literatures Credits: 3
- FREN 4990 - Advanced Independent Study Credits: 1-3

Total: 18 Hours

German Minor

As a German Minor, you will develop your speaking, listening, and communication skills as a German speaker. You will gain a better understanding of perspectives and experiences of German speaking cultures.

Requirements

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Electives

- 9 hours chosen from German at the 3000 or 4000 level.
- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 3990 - Independent Study Credits: 1-4
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4100 - A Survey of German Literature I Credits: 3
- GERM 4145 - Weimar Classicism Credits: 3
- GERM 4180 - German Poetry Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- GERM 4240 - German Literature of the Romantic Period Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- GERM 4275 - Contemporary Migration Literature Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3
- GERM 4990 - Advanced Independent Study Credits: 1-3

Total: 18 Hours

Japanese Minor

As a Japanese Minor, you will develop your speaking, listening, and communication skills as a Japanese speaker. You will gain a better understanding of perspectives and experiences of Japanese speaking cultures.

Prerequisites

- JAPN 1010 - First Year Japanese I Credits: 4

- JAPN 1020 - First Year Japanese II Credits: 4
- JAPN 2030 - Second Year Japanese I Credits: 4

Minor Program Requirements

A Japanese minor requires 18 credit hours of coursework which include JPN 2040 and above, and all courses required for a minor in Japanese are offered as online courses. These courses include:

- JAPN 3050 - Third Year Japanese I Credits: 3
- JAPN 3060 - Third Year Japanese II Credits: 3
- JAPN 2070 - Conversational Japanese Abroad Credits: 4
- LANG 2150 - Manga: History and Culture Credits: 3
- LANG 3140 - Anime: History and Culture Credits: 3
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- LANG 3105 - Major Themes in Chinese and Japanese Literature Credits: 3
- HP 3151 - Topics: Global Perspectives Credits: 3

History and Culture classes (LANG 2150, 3140, 3105, and 4800) rotate every two years, as one History and Culture class is offered a semester. Modern Japanese Society (HP/LANG 3151) is offered twice a year, with one of these classes being a study abroad opportunity.

Latin Minor

As a Latin Minor, you will develop the communication skills necessary to read an original text of Classical Latin in prose or verse as well as the cultural knowledge essential to understand and analyze it.

Requirements

- LATN 3110 - Vergil, The Aeneid I Credits: 3
- LATN 3140 - Caesar Credits: 2
- LATN 4120 - Catullus and the Elegiac Poets Credits: 3
- LATN 4130 - Cicero Credits: 3

Electives

7 hours chosen from Latin at the 3000-level or above.

- LATN 3120 - Vergil, The Aeneid II Credits: 3
- LATN 3150 - Livy Credits: 3

- LATN 3160 - Ovid Credits: 2
- LATN 3990 - Independent Study Credits: 1-4
- LATN 4110 - Horace Credits: 3
- LATN 4115 - Latin Philosophers Credits: 3

Total: 18 Hours

Spanish Minor

As a Spanish Minor, you will develop your speaking, listening, reading, writing, and presentational skills in Spanish. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

Electives

- 18 hours of electives in Spanish at the 2000-level or above (excluding SPAN 2030).
- Elective courses include:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Total: 18 Hours

Graduate

Spanish, M.A.

As a Spanish Masters Student, you will develop your speaking, listening, reading, writing, and presentational skills in Spanish. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

Program Specific Admission Requirements

Those interested in graduate study in this program, are encouraged to contact the Department of Modern & Classical Languages (307-766-4176, languages@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required.
- A minimum of three letters of recommendation from:
- current or former college/university instructor(s) of the applicant; and/or
- current or previous professional supervisor(s) of the applicant.
- A statement of purpose that contains the applicant's:
- Professional/career goals.
- Educational goals.
- Statement of how the graduate program will help the applicant attain their educational and professional goals.
- Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
- Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.
- Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).
- Any special skills or competencies (including any certifications or licenses).
- List of publications, prizes, awards, or other recognitions.
- List of service/volunteer activities.

The preferred application deadline is January 31 to be considered for fall admission, but applications will remain open until all available positions are filled.

GRE scores are not required. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. Applicants must present evidence of a satisfactory background in Spanish coursework or near-native fluency in the Spanish language.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. International students

with Teaching Assistantships require proof of English speaking proficiency: Advanced-Mid on OPIc or TOEFL speaking score of 23, or IELTS speaking score of 6.5, or DuoLingo average score of 105. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements. Please see more information in the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog.

Required Courses

Program Specific Degree Requirements

A total of 27 graduate-level course hours are required.

Plus 4 thesis hours.

- SPAN 4200 - Introduction to Research Credits: 3
- SPAN 5900 - Practicum in College Teaching Credits: 3
- One 5000 level course in SPAN Linguistics Credits: 3
- One 5000 level course in SPAN Literature Credits: 3
- Spanish elective credits at the graduate level Credits: 15

    One 5000 level course (3 credits) can be taken outside the department with the approval of the thesis advisor or the graduate advisor

    Graduate-level courses include:

- SPAN 5070 - Spanish Variation and Change Credits: 3
- SPAN 5080 - Spanish Advanced Grammar Credits: 3
- SPAN 5090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 5100 - Hispanic Thought Credits: 3
- SPAN 5110 - Peninsular Spanish Literature Credits: 1-3
- SPAN 5120 - Spanish American Literature Credits: 1-3
- SPAN 5130 - Masterpieces of Spanish Renaissance Literature Credits: 3
- SPAN 5140 - Masterpieces of Spanish Baroque Literature Credits: 3
- SPAN 5150 - Spanish Romanticism Credits: 3
- SPAN 5160 - Graduate Readings Credits: 1-5
- SPAN 5170 - Special Problems Credits: 1-2
- SPAN 5180 - Advanced Cultural Studies in Hispanic Lit/Media Credits: 3

- SPAN 5190 - 20th and 21st Century Spanish-American Texts Credits: 3
- SPAN 5260 - The Realist Novel in Spain Credits: 3
- SPAN 5990 - Internship Credits: 1-12

Total: 31 Hours

Department of Music

Music 2049 Buchanan Center for the Performing Arts, (307) 766-5242
FAX: (307) 766-5326
Web site: www.uwyo.edu/music
Department Head: Ben Markley

Professors:

THERESA L. BOGARD, B.M. University of Colorado 1983; M.M. Eastman School of Music 1985; D.M.A. University of Colorado 1990; Professor of Music 2004, 1992. Keyboard, Keyboard Area Coordinator, Piano.

JOHN FADIAL, B.M. North Carolina School of the Arts 1987; M.M. Eastman School of Music 1989; D.M.A. University of Maryland 1995; Professor of Music 2015, 2008. Violin.

MICHAEL GRIFFITH, B.M.E. Michigan State University 1973; M.M. 1975; D.M.A. University of Colorado 1994; Professor of Music 2001, 1989. Conducting, Woodwinds.

J. SCOTT TURPEN, B.M.E. Boise State University 1994; M.M. University of Georgia 1996; D.M.A. 1999; Professor of Music 2012, 2001. Saxophone.

BLAKE MCGEE, B.M. University of Minnesota 2001; M.M. 2004; D.M.A. University of Oregon 2008; Associate Professor of Music 2016, 2010. Clarinet, Musicology.

BETH VANDERBORGH, B.M. Manhattan School of Music 1988; M.M. Eastman School of Music 1990; D.M.A. University of Maryland 1995; Associate Professor of Music 2014, 2008. Cello, Graduate Coordinator.

Associate Professors:

CRYSTAL SIEGER, B.M. Ohio State University 1992; M.M. University of Arizona 1994; Ph.D. 2012; Assistant Professor of Music 2014. Music Education.

BEN MARKLEY, B.M. Fort Hays State University 2005; M.A. New York University 2007; D.M.A. University of Colorado Boulder 2010; Assistant Professor of Music 2016. Jazz Studies.

TIGER ROBISON, B.M.E. University of Hartford 2005; M.S. Central Connecticut State University 2012; Ph.D. University of Hartford 2016; Assistant Professor of Music 2017. Music Education.

Assistant Professors:

JOSEPH CARVER, B.M.E. 2007 Ohio University; M.M. 2014 Ohio University; Ph.D. 2019 The Ohio State University. Associate Director of Bands.

BRIAN MURRAY, B.M. University of North Texas 2010; MME, Florida State University 2015; DMA, University of North Texas 2020. Assistant Professor of Music 2020. Choral Music Education.

DAVID WHARTON, B.M. Oberlin Conservatory 2009, M.M. Yale School of Music 2011, D.M.A. University of Connecticut 2019. Assistant Professor of Music 2020. Trumpet.

ANDREW WHEELOCK, B.M.E. Central Michigan University 2013; M.M. University of Illinois 2015; D.M.A. 2018. Assistant Professor of Music 2018. Percussion.

Academic Professional Lecturers:

JENNIFER TURPEN, B.M.E. SUNY-Potsdam 1996; M.M. University of Georgia 2000; D.M.A. 2000; Academic Professional Lecturer, Senior 2017, 2003. Theory, Saxophone.

ERIK ERLANDSON, B.M. DePauw University 2013; M.M. Louisiana State University 2015; D.M.A. University of Colorado Boulder 2020. Academic Professional Lecturer 2019. Choral.

Lecturers:

Will Flagg, O'Neil Jones, Nicole Riner, Magdalena Wór.

Part-time Lecturers:

Courtney Bress, Ryan Fourt, Alan Harvey, Alla Latchininsky, Kaori Uno-Jack, Seth Lewis, David Mesquitic, Susan Fritts, Greg Strampe, Heath Walton, Dan Watt, Brittany Bonner

Professors Emeriti:

Katrina Zook, Robert Belser, Steve Barnhart, David Brinkman, Gordon Childs, Julia Combs, Rodney Garnett, Frederick Gersten, Brian Hanly, Larry Hensel, Edgar Lewis, Kathleen McKeage, William Stacy, Carlyle Weiss

The Department of Music offers undergraduate and graduate degree programs which combine scholarship with performance, theory with practice and the academic with the creative. It also provides an opportunity for the study and performance of music by university students who are not majors in music. By giving concerts, workshops and lectures throughout the state of Wyoming through the Fine Arts Outreach Program, the music department serves as a musical resource for the entire state. The music department is fully accredited by the National Association of Schools of Music.

Procedures and requirements are listed in the music department *Student Handbook* which is available online at www.uwyo.edu/music/forms/index.html. The music department *Student Handbook* and the *University Catalog* are binding documents for the degree programs listed below. Students must receive a "C" or better in all courses designated MUSC to satisfy department requirements. The foreign language requirement for the Bachelor of Music in Performance Vocal Emphasis degree may be satisfied with a "C" or better in all courses. A student's transfer courses must meet all of these requirements to be accepted for credit.

An audition is required to become a Music major or minor. The 3 Steps to Becoming a Music Major are:

- Apply for admission to the University of Wyoming (www.uwyo.edu/admissions/).
- Audition for admittance as a Music major and for Music scholarships. Audition and scholarship information may be found at www.uwyo.edu/music. All Music majors and minors MUST audition to be admitted to the Music program.
- Perform at an acceptable level, and you are in!

Degrees

Bachelor of Arts (with major in music): A program designed for the student who desires a broadly-based liberal arts program.

Bachelor of Music Performance: A fouryear course of study designed for students who wish to prepare for a professional career as performer and applied teacher.

Bachelor of Music Education: A fouryear course of study for the student who wishes to prepare for a career as a teacher of music in elementary or secondary schools in the instrumental, vocal, and general music fields.

Certificates

Music Entrepreneurship Certificate: The certificate provides a basic understanding of music marketing principles and practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management. A certificate may be pursued on its own or in conjunction with any university degree program.
https://www.uwyo.edu/music/certificates/music_entrep_index.html

Audio Technology Certificate: The certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music workforce with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. Certificate may be pursued on its own or in conjunction with any university degree program.

Performer's (post-baccalaureate) Certificate

A non-degree course of study for the student seeking to improve professional performance skills. The program consists of a total of 30 credit hours from applied lessons, ensembles and electives to be selected in consultation with the major adviser. Prerequisites are demonstrated evidence of advanced performance proficiency through a live or recorded audition, undergraduate degree in music, and admission to the university.

Music for Other Students

Music as an elective subject. Students from other departments of the university may, with consent of their adviser and applied instructor, elect private or class lessons in applied music (with or without previous training) and may enroll in any theory, music literature or activity course for

which they are qualified. See the music department Student Handbook for requirements for a minor in music.

Organizations. Performance organizations include the Happy Jacks, Marching Band, Symphonic Band, Wind Ensemble, Collegiate Chorale, Symphony Orchestra, Chamber Orchestra, Singing Statesmen, Bel Canto, Women's Choir, and Opera Theatre. Other groups are brass, woodwind, string, percussion and piano ensembles, Vocal Jazz, Civic Chorus and Jazz Ensemble. Membership is open to qualified students in all colleges and departments of the university. Each year, in addition to frequent appearances on the campus, several of these organizations and groups tour the region.

Music Fees

For Individual Instruction:

One 1/2-hour lesson weekly, per semester	$150.00
One 1-hour lesson weekly, per semester	$300.00

For Music 4510, 4520, 4530, 4540, 4550 and 4560 (courses taken in the form of private lessons) a fee of $85.00 is assessed each semester.

Practice Rooms:

per semester	$35.00
Music instrumental fee, per semester	$25.00
Music locker fee, per student per semester	$15.00
Public School Methods fee, per class	$5.00

Undergraduate Study

Learning Outcomes

Bachelor of Arts in Music

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles

at the lower and upper divisions a minimum of four times with a career maximum of 8. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Arts degree in Music, students will be able to: (1) demonstrate a level of competence as solo and ensemble performers appropriate for a musician educated in the liberal arts, (2) demonstrate specific knowledge in music theory, music history, and general studies appropriate for their professional goals, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

USP PN Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

Elective 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

Upper division MUSC electives.....6

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Diversity in the U.S. Course 3

Elective 3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

A&S Core Global Awareness Course 3

Upper division MUSC elective*.....3

Electives 6

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

USP COM3 Course.....3

Upper division MUSC elective.....3

Electives 6

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....1

A 3000-level Ensemble.....1

Upper division MUSC electives*.....6

Electives 6

Degree Total 120

*Upper Division MUSC Electives: See complete list in Undergraduate Music Handbook.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this *Catalog*. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music in Performance

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirements students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All string and vocal emphases must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for those with little piano background. All wind and percussion emphases must pass Class Piano 1-2 with a B or better or may substitute the Piano Literacy exam in their place. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music degree in Performance, students will be able to: (1) demonstrate excellence as solo and ensemble performers to provide a basis for a professional career as a musician, (2) demonstrate specific knowledge in music theory, music history, and instrumental pedagogy to provide a basis for a professional career as a performing musician, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

University and College Requirements

In addition to the major requirements listed above, students must complete all university and College of Arts and Sciences requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Upper Division Music Electives

Upper division music electives vary per emphasis. Please see the Undergraduate Music Handbook for a full listing.

Winds and Percussion Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Global Awareness Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP H Course 3

Elective 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP H Course 3

Elective 3

Degree Total 120

String Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2290.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2050.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4651.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4615.....2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....3

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....6

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Vocal Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2320.....2

MUSC 2270-06.....2

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2325.....2

MUSC 2000-level Applied Lessons II.....2

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....3

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

A 1000-level Ensemble.....1

USP H Course/Foreign Language 4

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

USP COM2 Course.....3

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4610 2

MUSC 4000-level Applied Lessons IV.....2

A 3000-level Ensemble.....1

Upper division MUSC electives.....5

UPS V Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

USP PN Course 3

A&S Core Diversity in the U.S. Course 3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

Upper division MUSC elective.....3

USP PN Course 3

A&S Core Global Awareness Course 3

Degree Total 120

Keyboard Emphasis:

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1040.....3

MUSC 1045.....1

MUSC 2000-level Applied Lessons II.....2

MUSC 1280.....1

USP Q Course 3

USP H Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP V Course 3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2395.....0

MUSC 3255.....0

MUSC 3000-level Applied Lessons III.....2

MUSC 1280.....1

USP PN Course 3

USP COM2 Course.....3

JUNIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4070.....3

MUSC 4600.....2

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....6

JUNIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 3500.....0

MUSC 4000-level Applied Lessons IV.....2

MUSC 3280.....1

Upper division MUSC electives.....5

A&S Core Global Awareness Course 3

Elective 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 4040.....2

MUSC 4650.....3

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

USP COM3 Course.....3

SENIOR YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 4590.....2

MUSC 5000-level Applied Lessons V.....2

MUSC 3280.....1

Upper division MUSC elective.....3

A&S Core Diversity in the U.S. Course 3

Elective 3

Degree Total 120

Bachelor of Music Education

All music majors must successfully complete MUSC 0200 Convocation (0 credit, S/U) each semester in residence and must enroll in lessons and one major ensemble per semester. Each ensemble course is deemed to be a unique course even though the course number is not unique. To fulfill this degree requirement students will be expected to enroll in ensembles at the lower and upper divisions a minimum of four times with a career maximum of 8. All music majors must pass the piano proficiency test during their sophomore year. Class Piano 1-4 is highly recommended for majors with little piano background. Consult your advisor and the Music Handbook for specific information.

Learning Outcomes

Graduates of the UW Department of Music will develop the skills, concepts, and sensitivities essential to the professional life of a musician (NASM Handbook, p. 85).

At the completion of the Bachelor of Music Education degree, students will be able to: (1) demonstrate skill as solo and ensemble performers who can work as professional educators, (2) demonstrate specific knowledge in music theory, music history, and instrumental and vocal pedagogy to provide a basis for a professional career as a music educator, (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music, and (4) demonstrate the pedagogical background and teaching experience to function as effective K-12 music educators.

University and College Requirements

In addition to the major requirements listed below, students must complete all university requirements listed elsewhere in this Catalog. A minimum of 42 hours of the total degree must be at the junior/senior level. Check with your adviser about music courses which fulfill University Studies Program requirements.

Bachelor of Music Education - Brass, Woodwind, & Percussion Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 1370.....1

MUSC 2000-level Applied Lessons II.....1

USP COM1 Course 3

USP FYS Course 3

USP H Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4070.....3

MUSC 4455.....3

MUSC 4705.....1

MUSC 4750.....1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4380.....2

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 121

Bachelor of Music Education - String Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1352 2

MUSC 1340.....1

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

Passing the Piano Literacy exam at any time will substitute for the Class Piano requirement. See student handbook.

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4780.....2

MUSC 1*** Second String Instrument 1

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4715 1

MUSC 4465.....3

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 126

Bachelor of Music Education - Vocal Emphasis

FRESHMAN YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1030.....3

MUSC 1035 1

MUSC 1290.....1

MUSC 2320.....2

MUSC 2270-06.....1

A 1000-level Ensemble.....1

USP COM1 Course 3

USP FYS Course 3

FRESHMAN YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1003.....3

MUSC 1025.....2

MUSC 1040.....3

MUSC 1045.....1

MUSC 1295.....1

MUSC 2000-level Applied Lessons II.....1

A 1000-level Ensemble.....1

USP Q Course 3

SOPHOMORE YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 1340.....1

MUSC 1352 2

MUSC 1360.....1

MUSC 2030.....3

MUSC 2035.....1

MUSC 2050.....3

MUSC 2290.....1

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP COM2 Course.....3

SOPHOMORE YEAR: Spring Hrs.

MUSC 0200.....0

MUSC 1312 2

MUSC 1332.....2

MUSC 2040.....3

MUSC 2045.....1

MUSC 2055.....3

MUSC 2295.....1

MUSC 2395.....0

MUSC 3255.....0

MUSC 3265.....0

MUSC 3000-level Applied Lessons III.....1

A 1000-level Ensemble.....1

USP V Course 3

JUNIOR YEAR: Fall Hrs.

EDST 2450.....3

MUSC 0200.....0

MUSC 1322.....2

MUSC 4455.....3

MUSC 4705.....1

MUSC 4070.....3

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

JUNIOR YEAR: Spring Hrs.

EDEX 2484.....3

MUSC 0200.....0

MUSC 4460.....3

MUSC 4620.....1

MUSC 4790.....2

MUSC 4000-level Applied Lessons IV.....1

A 3000-level Ensemble.....1

USP PN Course 3

SENIOR YEAR: Fall Hrs.

MUSC 0200.....0

MUSC 3015.....3

MUSC 4155 0

MUSC 4465.....3

MUSC 4715 1

MUSC 5000-level Applied Lessons V.....2

A 3000-level Ensemble.....1

USP PN Course 3

USP H Course 3

SENIOR YEAR: Spring* Hrs.

MUSC 4700.....8

MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total 124

Graduate Study

The Department of Music offers programs leading to the Master of Music in Performance and to the Master of Music Education.

The following prerequisites and credit hours will pertain to individual lessons for all the instruments and voice listed below. All students enrolled in MUSC 5080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in Individual Lessons.)

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Music requires that applicants for graduate programs submit supplementary documentation of their preparation for advanced study in music.

Those interested in graduate study in music are encouraged to contact the Graduate Studies Coordinator for the Department of Music, Dr. Beth Vanderborgh (bvander@uwyo.edu), or the Area Coordinator for each instrument or voice cited on the Department of Music website (www.uwyo.edu/music/).

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html):

- three letters of recommendation
- the Graduate Teaching Assistantship application
- academic transcripts

A minimum undergraduate cumulative GPA of 3.000 is required. The GRE is not required for admission consideration.

All accepted graduate students in the Mast of Music (MM) or Master of Music Education (MME) programs will take the Graduate Entrance Examinations in music history and music theory prior to matriculation. If a student does not pass one or more sections, they must take an online refresher course prior to undertaking advanced coursework.

International applicants who are not native English speakers must submit TOEFL or IELTS scores (TOEFL minimum = 76, IELTS minimum = 6.5). If an international applicant wishes to be considered for a Graduate Teaching Assistantship, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center if you have questions regarding the OPI (www.uwyo.edu/elc/international-teaching-assistants/graduate_admissions/index.html).

Applicants for the MM program should also request an audition and apply for music scholarship consideration via the Audition and Scholarships link found on the Graduate page of the Department of Music website (www.uwyo.edu/music/graduate_students/index.html). Applicants for the MME program should send their supporting documents (video of teaching/rehearsing, statement of music education philosophy, writing sample)

directly to Dr. Crystal Sieger, Music Education Coordinator (csieger@uwyo.edu).

Master of Music Education

An earned, documented Bachelor of Music Education degree from an accredited institution of higher learning.

One year of teaching experience plus: An active background in music education, A DVD of classroom teaching and/or rehearsing,

A one- to three-page statement of music education philosophy,

Three letters of recommendation, one from an immediate supervisor, of teaching effectiveness.

A writing sample from an extensive undergraduate research paper.

Learning Outcomes

1. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing skills necessary to enhance their teaching abilities in a P-16 vocal and/or instrumental teaching position.

2. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing/and communication skills necessary to solve contemporary music problems.

Master of Music in Performance

An earned, documented bachelor of music performance or bachelor of arts from an accredited institution of higher learning.

Live audition (preferred), live remote video audition, or lnks to an online video demonstrating:

A strong sense of musicality, Technical proficiency, Stylistically correct performance practices in at least three historical periods, where applicable,

A working knowledge of the standard repertoire,

Also, a portfolio of work showing concentrated activity on the major instrument or voice area.

Learning Outcomes

1. Graduate students will be excellent performers on voice or instrument.

2. Graduate students will demonstrate the advanced musical and pedagogical knowledge and research writing stills necessary to begin their professional performing career and/or demonstrate their readiness to teach at the college and/or university level and/or pursue

doctoral degrees.

Program Specific Graduate Assistantships

Graduate assistantships are awarded on a competitive basis to defray some of the costs of graduate study and to provide practical experience working under the guidance of faculty members.

Criteria that are taken into account in awarding assistantships include: academic preparation, performing ability, and special skills that would prove valuable in carrying out the duties of the assistantship, as well as, needs of the department.

To be considered for a graduate assistantship, the candidate must be fully admitted through the university. The application for an assistantship is accessed via the UW Graduate Admissions application. After considering the merits of the application, the department then nominates candidates to the university. Applications for assistantships are due by February 15.

Program Specific Degree Requirements

Master's Programs

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Basic music core (11 hours)

MUSC 5310. Bibliographical Research, 2 hours

Upper-division music history, 3 to 6 hours

Upper-division music theory, 3 to 6 hours

Major area courses (12-16 hours)

Thesis requirement (Plan A, four hours); (Plan B, zero hours)

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree

program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

Electives (0 to 7 hours)

Master of Music Education Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic music core, (11 hours)

Major area courses (12 - 15 hours)

EDRE 5530. Introduction to Research, 3 hours

MUSC 5760. Music Education Seminar, 2 hours

MUSC 5720. Music Supervision, 2 hours

Music education electives, 5-8 hours

Thesis requirement (0 to 4 hours) Plan A:

MUSC 5960. Thesis Research, four hours (the thesis must be on a music education topic), or

Plan B: Plan B paper, plus extra courses, 0 hours Electives (4 to 7 hours)

Master of Music in Performance Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic music core (11 hours minimum)

Major area courses (16 hours minimum)

MUSC 5480-5670. Private Lessons in major instrument or voice. A minimum of 8 hours.

MUSC 5770-5890. Ensembles, 2 hours

MUSC 5680. Graduate Recital, 2 hours.

A faculty jury must approve a recital given for credit one month prior to the performance.The faculty jury will determine the grade after the performance.

MUSC 5390. Performance Practice and Interpretation, 2 hours

MUSC 5320. Advanced Seminar, 3 hours MUSC 4***. Pedagogy (instrument specific), 2 hours

Requirement in lieu of thesis:

Plan B paper, or 1-hour lecture-recital

Foreign language requirement (voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Both degrees require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music (MUSC)

Individual Lessons: All students enrolled in MUSC 2080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in individual lessons.)

Students must receive a "C" or better in all courses designated MUSC to satisfy department degree requirements. A student's transfer courses in music must also reflect a "C" or better to be accepted for credit.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB♦Q]).

Major

Jazz Performance, B.M.

The BM in Jazz Performance is a jazz intense professional degree intended to prepare students for graduate school as well as a career in performing music. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Jazz Performance, B.M.: 120 Credits

Music Core: 56 Credits

- Students must complete at least one ensemble per semester enrolled, total 8.
- MUSC 0200 - Music Convocation Credits: 0
  Students must complete 8 semesters of Convocation, 1 each semester they are in residence.
- MUSC 1290 - Class Piano I Credits: 1
- MUSC 1295 - Class Piano II Credits: 1
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 4070 - Conducting Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- One hour of Applied Lessons on the students major instrument must be taken every semester starting at the 2000 level.

MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16

Instrumental Emphasis: 2 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2

Jazz Core Requirements: 11 Credits

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2

Upper Division Music Electives: 9 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4990 - Topics in: Credits: 1-12

- MUSC 5035 - Advanced Theory Credits: 3

General Electives: 6 Credits

Music Education, B.M.

The **BM in Music Education** is a professional degree intended to prepare students for careers as K-12 music educators. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Music Education: B.M.

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Music Core: 43 Credits

- Students must complete at least one ensemble per semester enrolled, total 7.
- MUSC 0200 - Music Convocation Credits: 0
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3

- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2390 - Piano Literacy Exam Credits: 0
- Students who are Brass, Woodwind, and Percussion Emphasis may fulfill this requierment by passing Class Piano 1 and 2 with a B or higher.

OR

- MUSC 2395 - Piano Proficiency Credits: 0
- Required for all Vocal and String emphasis students. Class Piano 1-4 is recommended to prepare for this exam.
- MUSC 4070 - Conducting Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- MUSC 4155 - Senior Music Education Recital Credits: 0
- Applied lessons are required each semester of residency:

  MUSC 2*** Applied Lessons II: 2 Credits **Credits / Units:** 8

  MUSC 3*** Applied Lessons III: 2 Credits **Credits / Units:** 8

  MUSC 4*** Applied Lessons IV: 2 Credits **Credits / Units:** 8

  MUSC 5*** Applied Lessons V: 2Credits **Credits / Units:** 8

Music Education Core: 13 Credits

Prerequisite: MUSC 1040 & 1045

- MUSC 1025 - Introduction to Music Education Credits: 2
- MUSC 1312 - Public School Tech: Brass Credits: 2
- MUSC 1322 - Public School Tech: Percussion Credits: 2
- MUSC 1332 - Public School Tech: Strings Credits: 2
- MUSC 1340 - Public School Methods: Voice I Credits: 1
- MUSC 1352 - Public School Tech: Woodwinds Credits: 2
- MUSC 1360 - Public School Methods: Guitar Credits: 1
- MUSC 3265 - Music Education Proficiency Review Credits: 0
- MUSC 4620 - Practicum in Music Education Credits: 1

Emphasis: Choose One, 4-5 credits

String Emphasis: 4 credits

- String majors must take lessons on a secondary string instrument. 2 credits

Credits / Units: 2

- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

Vocal Emphasis: 4 credits

- MUSC 2320 - Diction for Singers I Credits: 2
- MUSC 4620 - Practicum in Music Education Credits: 1

Brass, Woodwind, and Percussion Emphasis: 5 credits

- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

Professional Education Requirements: 33 Credits

- EDST 2450 - Foundations of Development and Learning Credits: 3
- EDEX 2484 - Introduction to Special Education Credits: 3
- MUSC 4460 - Choral Music Methods Credits: 3
- MUSC 4465 - Instrumental Music Methods Credits: 3
- MUSC 4705 - Elementary Music Ed Practicum Credits: 1
- MUSC 4715 - Secondary Music Ed Practicum Credits: 1
- MUSC 4700 - Elementary Student Teaching in Music Credits: 8
- MUSC 4710 - Secondary Student Teaching in Music Credits: 8

Music Performance, B.M.

The **BM in Performance** is a professional degree intended to prepare students for graduate school as well as a career in performing music. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but

not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

B.M. Performance, Vocal Emphasis: 120 Total Hours

Music Core: 54 Credits

- Ensembles: 1 per semester, minimum 8
Credits / Units: 8
- MUSC 0200 - Music Convocation Credits: 0

- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- Applied lessons are required each semester of residency:
    MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16

MUSC 3*** Applied Lessons III: 4 Credits
Credits / Units: 16
MUSC 4*** Applied Lessons IV: 4 Credits
Credits / Units: 16
MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16

- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Vocal Emphasis: 6 Credits

- MUSC 2320 - Diction for Singers I Credits: 2
- MUSC 2325 - Diction for Singers II Credits: 2
- MUSC 4635 - Vocal Pedagogy Credits: 2

Upper Division Music Electives: 16 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4040 - Composition Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, Keyboard Emphasis: 120 Hours Total

Music Core: 56 Hours

- MUSC 0200 - Music Convocation Credits: 0
- Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
    - Applied lessons are required each semester of residency: **Credits / Units:** 16
      MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
      MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
      MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
      MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 4070 - Conducting Credits: 3
- MUSC 4040 - Composition Credits: 2
- MUSC 1280 - Collaborative Piano I Credits: 1-2
- Ensembles: MUSC 1280 is intended for freshman and sophomores; MUSC 3280 is intended for juniors and seniors. You must be registered for a minimum of one ensemble per semester.

Credits / Units: 8

- MUSC 3280 - Collaborative Piano II Credits: 1-2
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Keyboard Emphasis: 5 Credits

- MUSC 4625 - Piano Pedagogy Credits: 2
- MUSC 4650 - Keyboard Literature Credits: 3

Upper Division Music Electives: 17 Hours

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, String Emphasis: 120 Total Hours

Music Core: 56 Credits

- Ensembles: 1 per semester, minimum 8

Credits / Units: 8

- MUSC 0200 - Music Convocation Credits: 0
- Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- Class Piano 1-4 is highly recommended for students with little or no piano experience. All music majors must pass a piano proficiency test during their sophomore year (MUSC

2395). If a student opts not to take Class Piano, then four (4) hours of elective credits must be taken to ensure 120 hours for graduation.

- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0

  Applied lessons are required each semester of residency: **Credits / Units:** 16
  MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
  MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
  MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
  MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 4040 - Composition Credits: 2
- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

String Emphasis: 4 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2
- MUSC 4651 - String Solo Literature Credits: 3

Upper Division Music Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, Winds & Percussion Emphasis: 120 Total Hours

Music Core: 58 Credits

- Ensembles: 1 per semester, minimum 8

Credits / Units: 8

- MUSC 0200 - Music Convocation Credits: 0

  Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
  - Applied lessons are required each semester of residency: **Credits / Units:** 16

    MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16

    MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16

    MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16

    MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 1290 - Class Piano I Credits: 1

  AND
- MUSC 1295 - Class Piano II Credits: 1

  OR
- MUSC 2390 - Piano Literacy Exam Credits: 0 All Performance majors with a Wind and Percussion Emphaisis must pass the Piano Literacy Exam (MUSC 2390) during their sophomore year OR pass Class Piano 1 & 2 with a B or better. If a student opts not to take Class Piano, then two (2) hours of elective credits must be taken to ensure 120 hours for graduation.
- MUSC 4040 - Composition Credits: 2
- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0

- MUSC 4590 - Senior Recital Credits: 2

Instrumental Emphasis: 2 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2

Upper Division Music Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

Music, B.A.

The **BA in Music** is a broad liberal arts degree with a 58-credit core music curriculum. Majors have the freedom to explore the potential for future careers in the music and arts industry such as arts management, entrepreneurship, and audio technology.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and

consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Music Core: 40 Credits

- Students must complete at least one ensemble per semester enrolled, total 8.
- MUSC 0200 - Music Convocation Credits: 0
- All music majors must enroll in and successfully complete Convocation each semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2390 - Piano Literacy Exam Credits: 0
- The Piano Literacy Exam must be completed by the end of Sophomore year. It may be substituted by passing Class Piano 1 and 2 with a B or higher.
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- Students must be enrolled in instrument specific lessons every semester they are enrolled. They must complete the following:

    MUSC 2*** Applied Lessons II, 2 credits **Credits / Units:** 8
    MUSC 3*** Applied Lessoons III, 2 Credits **Credits / Units:** 8
    MUSC 4*** Applied Lessons IV, 2 Credits **Credits / Units:** 8
    MUSC 5*** Applied Lessons V, 2 Credits **Credits / Units:** 8

Upper Division Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4040 - Composition Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4590 - Senior Recital Credits: 2
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4990 - Topics in: Credits: 1-12

- MUSC 5035 - Advanced Theory Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Minor

Music Minor: 18 Credits

A **Minor in Music** consists of 18 credit hours intended to broaden a student's musical skills as well as foster musical talents while they are pursuing a separate major. Acceptance to the minor is by audition only.

Required Courses

- **Ensembles**: Minimum 2 semesters required

Credits / Units: 2

- **Applied Lessons**: Complete at least 2 hours of Applied Lessons (2 semesters, minimum 30 minutes each)

Credits / Units: 2

- MUSC 0200 - Music Convocation Credits: 0

  2 Semesters Required
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1

  Choose one of the following: Credits / Units: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3

  OR
- MUSC 2055 - Historical Perspectives III Credits: 3

  Choose at least 3 credits from the following. Final credit hours for the minor must equal 18. Credits / Units: 3
- MUSC 3015 - Introduction to Global Music Credits: 3
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3

Graduate

Music Education, M.M.

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic Music Core (11 Hours)

No more than 12 credits can be counted from 4000-level courses toward any graduate program of study.

- MUSC 5310 - Music Research Methods Credits: 2

- Choose a total of at least THREE courses from the following (minimum 9 credits from the following two categories):
- **Upper-Division Music History** (3-6 Credits):
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 5320 - Advanced Seminar Credits: 2-6
- **Upper-Division Theory** (3-6 hours):
- MUSC 5035 - Advanced Theory Credits: 3
- MUSC 5340 - Advanced Composition Credits: 1-4
- MUSC 5350 - Advanced Analysis Credits: 3

Major Area Courses (12-15 Hours)

- EDRE 5530 - Introduction To Research Credits: 3
- MUSC 5760 - Music Education Seminar Credits: 2
- MUSC 5720 - Musical Supervision: Choral Credits: 2
- Music education electives Credits: 5-8

Thesis Requirement (0-4 Hours)

Plan A

Four hours (the thesis must be on a music education topic)

- MUSC 5960 - Thesis Research Credits: 1-12

Plan B

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

- Plan B paper, plus extra courses Credits: 0

Electives (4 to 7 Hours)

Require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music Performance, M.M.

Each of the degree programs consists of 30 semester hours of work composed of the following elements

Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic Music Core (11 Hours Minimum)

> *No more than 12 credits can be counted from 4000-level courses toward any graduate program of study.*

- MUSC 5310 - Music Research Methods Credits: 2
- Choose a total of at least THREE courses from the following (minimum 9 credits from the following two categories):
- **Upper-Division Music History** *(3-6 Credits)*:
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 5320 - Advanced Seminar Credits: 2-6
- **Upper-Division Theory** (3-6 hours):
- MUSC 5035 - Advanced Theory Credits: 3
- MUSC 5340 - Advanced Composition Credits: 1-4
- MUSC 5350 - Advanced Analysis Credits: 3

Major Area Courses (16 Hours Minimum)

- MUSC 5480 - MUSC 5670 Private Lessons in major instrument or voice Credits: 8 minimum
- MUSC 5700 - MUSC 5890 Ensembles Credits: 2
- MUSC 5680 - Graduate Recital Credits: 2 A faculty jury must approve a recital given for credit one month prior to the performance. The faculty jury will determine the grade after the performance.
- MUSC 5390 - Performance Practice and Interpretation Credits: 2
- MUSC 5320 - Advanced Seminar Credits: 2-6
- MUSC 4*** - Pedagogy (instrument specific) Credits: 2

Requirement In Lieu of Thesis

Plan B paper, or 1-hour lecture-recital

Foreign Language Requirement

(voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Certificate

Audio Technology Certificate: 12 Credits

The Audio Technology Certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music work force with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. A certificate may be pursued on its own or in conjunction with any university degree program.

Required Courses

- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3
- MUSC 4365 - Recording Art and Technology Credits: 3
- MUSC 4370 - Live Sound Reinforcement Credits: 1
- MUSC 4990 - Topics in: Credits: 1-12
  Audio Technology Practicum/Internship **Credits / Units:** 3

Endorsement/Certificate

Art Entrepreneurship Certificate: 12 Credits

This certificate provides a basic understanding of marketing principles specific to the arts with practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management.

Required Core Courses (All Emphases)

- MUSC 4002 - Arts Entrepreneurship Seminar Credits: OR, TO
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- Choose one of the following:
- MGT 2100 - Management and Organizations Credits: 3

OR

- MKT 2100 - Introduction to Marketing Credits: 3

- **The internships below are variable, 1-2 credits, depending on department. Please see individual advisors for exact hours.**

Music Emphasis

- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4005 - Internship in Music Business Credits: 1

Visual Arts Emphasis

- ART 4600 - Professional Practices and Strategies Credits: 3
- ART 4400 - Internship Credits: 1-3

Theater and Dance: Dance Emphasis

- THEA 4700 - Professional Seminar in Dance Credits: 1
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Theater and Dance: Design/Tech Management Emphasis

- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Theater and Dance: Performance Emphasis

- THEA 4720 - Auditioning and Professional Issues Credits: 3

- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Department of Philosophy and Religious Studies

Philosophy

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/philosophy/index.html
E-mail: philosophy@uwyo.edu
Department Head: Robert S. Colter

Professors:

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2013.

JEFFREY A. LOCKWOOD, B.S. New Mexico Institute of Mining and Technology 1982; Ph.D. Louisiana State University 1985; Professor of Philosophy and Creative Writing 2006.

Associate Professors:

SUSANNA L. GOODIN, B.A. Texas Technical University 1981; M.A. Rice University 1985; Ph.D. 1990; Associate Professor of Philosophy 1998, 1992.

EDWARD D. SHERLINE, B.A Princeton University 1982; M.A. University of Chicago 1983; Ph.D. University of Illinois-Chicago 1990; Associate Professor of Philosophy 1996, 1989.

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Associate Professor of Philosophy 2022, 2018.

Assistant Professor:

BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Assistant Professor of Philosophy 2018.

Senior Lecturer:

ROBERT S. COLTER, B.A. The University of Puget Sound 1992; M.A. University of Colorado 1995; Ph.D. Northwestern University 2001; Senior Lecturer 2021, 2013, 2007.

Assistant Lecturer:

LINDSAY RETTLER, B.A. Biola University 2005; M.A. Western Michigan University 2010; Ph.D. The Ohio State University 2015; Assistant Lecturer 2022**.**

Professors Emeriti:

James Forrester, Richard L. Howey, James A. Martin

About the Program

Philosophy starts with those hard questions we all ask at some time or another. Some important questions of meaning and justification can't be answered by making observations or doing experiments. Philosophy is the effort to deal with these problems through sustained, hard, and critical thinking. Philosophy is good preparation for careers that call for you to use your mind, without prejudice but with rigor.

The Philosophy Department offers an undergraduate major, and three undergraduate minors.

For details on each of these programs, see the department's web site.

Religious Studies

122 Ross Hall, (307) 766-3204
Web site: https://www.uwyo.edu/philrelig/about-us/relstudy/
Email: relstudies@uwyo.edu
Department Head: Robert S. Colter
Program Director: Tyler Fall

Professor

PAUL V. M. FLESHER, B.A. University of Rochester 1979; M.Phil. Oxford University 1982; Ph.D. Brown University 1988; Professor of Religious Studies 2012, 1993.

Assistant Professors

CATHERINE HARTMANN, B.A. University of Virginia in 2011, M.A. University of Chicago 2013, Ph.D. Harvard University 2020; Assistant Professor of Religious Studies 2020

TAMMY HEISE, B.A. Hendrix College 1998; M.A. Vanderbilt University 2006; Ph.D. Florida State University 2016; Visiting Assis¬tant Professor of Religious Studies 2015, Assistant Professor of Religious Studies 2020.

Senior Academic Professional Lecturer

TYLER S. FALL, B.A. Mary Washington College 1999; M.A. University of Oregon 2004; M.F.A. University of Wyoming 2009; Associate Academic Professional Lecturer of Religious Studies 2017, 2012.

MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 1999; Associate Academic Professional of Religious Studies 2017, 2012.

About the Program

Throughout history, religion has played an important role in shaping cultures and societies. Religious beliefs have inspired armies in their wars and leaders in their decisions. Re¬ligions have provided the foundation for ethi¬cal behavior and in many societies have been the primary source of education. In today's world, religions remain important, influencing our responses to 9/11, the Arab Spring, the Philosophy and Religious Studies, Middle East crisis, and other events in regions around the world. Even in our own secular United States, religions and their beliefs play a major role in our debates over public policy.

The Religious Studies department offers a range of courses in the academic study of reli¬gions. These courses seek to acquaint students with religious beliefs and behavior, helping them to understand the ability of religions to define the world in which their adherents live and the power religions have to influence the behavior of their followers. Religious Studies courses cover a broad range of religions, both modern and historical. Some courses focus on understanding a single religion in a limited time period, while others compare aspects of different religions. Yet further courses focus on religious expression, studying how religious beliefs are depicted in literature, film, art and music. Many of these courses are offered by the Religious Studies department, while others can be found in various departments, including anthropology, art, English, history and sociology.

Graduate Study

At present, no program for a graduate degree in religious studies is offered; however, some courses may be counted at the graduate level.

Major

Philosophy, B.A.

Philosophy provides the critical thinking, logical reasoning, and innovative problem-solving skills necessary to be competitive in law, business, academia, tech, arts, and government. It also explores what it is to live a meaningful life outside a career.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Requirements

- A major in Philosophy requires a minimum of 33 hours (11 courses) of philosophy.
- At least 6 hours (2 courses) must be at the 4000-level.
- At least an additional 18 hours (6 courses) must be at or above the 3000-level.
- The remaining 9 hours (3 courses) may be at any level.
- The department recommends that students begin with a 1000-level Intro course or a FYS followed by one or two other courses at the 1000 or 2000-level but it is not required that a student follow this recommendation.
- Only those courses in which a grade of C or better has been earned may count toward the 33-hour requirement.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

1000 -2000-level courses

Nine hours (3 courses) may be at any level.

- PHIL 1000 - Introduction to Philosophy Credits: 3
- PHIL 1101 - First-Year Seminar Credits: 3
- PHIL 2100 - The Greek Mind Credits: 3
- PHIL 2300 - Ethics in Practice Credits: 1-3
- PHIL 2310 - Philosophy of Religion Credits: 3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3

3000-level courses

At least 18 hours (6 courses) must be at or above the 3000-level.

- PHIL 3000 - Special Topics Credits: 3
- PHIL 3100 - History of Modern Philosophy: The Rationalists Credits: 3
- PHIL 3110 - History of Modern Philosophy: The Empiricists Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3160 - "What Killed Socrates?" Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 3340 - Philosophy in Literature Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- PHIL 3500 - History of Science Credits: 3
- PHIL 3933 - African Philosophy Credits: 3

4000-level-courses

At least 6 hours (2 courses) must be at the 4000-level.

- PHIL 4000 - Philosophical Issues Credits: 1-3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3
- PHIL 4040 - Kant Credits: 3
- PHIL 4110 - Figures in Contemporary Philosophy Credits: 3-6
- PHIL 4120 - Philosophy and the 20th Century Credits: 3
- PHIL 4130 - Figures in Modern and 19th Century Philosophy Credits: 3
- PHIL 4140 - Topics in Philosophy of Science Credits: 3
- PHIL 4190 - Philosophy of Language Credits: 3-6
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3
- PHIL 4420 - Advanced Logic Credits: 3
- PHIL 4440 - Topics in Philosophy of the Mind Credits: 3-6
- PHIL 4510 - Theory of Knowledge Credits: 3
- PHIL 4560 - Metaphysics Credits: 3
- PHIL 4975 - Independent Study Credits: 1

Religious Studies, B.A.

Religious Studies builds skills for your future in a globalized world. You will learn to ask life's big questions, analyze how communities across time and place have addressed these questions, and communicate persuasively in your own speech and writing.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

General Requirements

A major in Religious Studies requires 33 hours (11 courses).

For students completing their degree under the 2015 University Studies Program:

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the

courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Two Required Courses: 6 Hours

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 4000 - Theories of Religion Credits: 3

1000-2000 level Courses

Nine hours (3 courses) may be at any level.

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 1101 - First-Year Seminar Credits: 3
- RELI 2030 - Violence and Resistance Credits:
- RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam Credits: 3
- RELI 2050 - Religions of Asia Credits: 3
- RELI 2070 - Gender and Religion Credits: 3
- RELI 2080 - Holocaust Credits: 3
- RELI 2110 - Introduction to the Old Testament Credits: 3
- RELI 2150 - New Testament Survey Credits: 3
- RELI 2175 - The Life and Teaching of Jesus Credits: 3
- RELI 2200 - Contemporary American Religion Credits: 3
- RELI 2225 - History of Christianity Credits: 3
- RELI 2250 - American Religious History I (To 1865) Credits: 3
- RELI 2252 - American Religious History II (1865-1945) Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- RELI 2320 - History of Islam Credits: 3
- RELI 2330 - Islam in the Modern World Credits: 3

- RELI 2410 - Varieties of Non-Belief in the Western World Credits: 3
- RELI 2450 - Traditional African Religion Credits: 3
- RELI 2490 - Special Topics in Religion Credits: 1-3
- RELI 2335 - Buddhism Credits:

3000-4000 Level Courses

At least 18 hours (6 courses) must be at or above the 3000-level.

- RELI 3090 - Middle East and Israel in Film Credits: 3
- RELI 3110 - Bible and Archaeology Credits: 3
- RELI 3200 - Religion and American Culture Credits: 3
- RELI 3220 - History of the Modern Middle East Credits: 3
- RELI 3225 - Apocalypse: The History of the End Credits: 3
- RELI 3230 - Early Christianity Credits: 3
- RELI 3235 - Medieval Christianity Credits: 3
- RELI 3240 - Reformation and Enlightenment Christianity Credits: 3
- RELI 3245 - Christianity Since Darwin Credits: 3
- RELI 3250 - Tibetan Buddhism Credits:
- RELI 3260 - African Spirits in the New World Credits: 3
- RELI 3320 - Eastern Thought Credits: 3
- RELI 3340 - Mysticism, Yoga, and Enlightenment in the East Credits: 3
- RELI 3350 - Religion and Globalization in India Credits: 3
- RELI 3400 - Religion in the American West Credits: 3
- RELI 4000 - Theories of Religion Credits: 3
- RELI 4090 - Film and Religion Credits: 3
- RELI 4100 - African American Religious Culture Credits: 3
- RELI 4113 - Medieval Religious Dissent Credits: 3
- RELI 4160 - Moses, Jesus, and Muhammad Credits: 3
- RELI 4174 - Judaism from Ezra to Jesus Credits: 3
- RELI 4175 - Judaism at the Dawn of Christianity Credits: 3
- RELI 4190 - Women and the Bible Credits: 3
- RELI 4260 - Judaism in the Modern World Credits: 3
- RELI 4270 - Buddhist Ethics Credits:
- RELI 4310 - Seminar in Asian Religions Credits: 3
- RELI 4335 - Women and Islam Credits: 3
- RELI 4500 - Special Topics in Religious Studies Credits: 1-3

- RELI 4635 - Religious Studies Departmental Honors Credits: 0
- RELI 4900 - Independent Study in Religion Credits: 1-3
- RELI 4930 - Thesis Credits: 0-6
- RELI 4960 - International Field Course Credits: 1-6
- RELI 4961 - Domestic Field Course Credits: 1-6

Language

Students should take three semesters of a single foreign language or demonstrate equivalent proficiency. See note 3 below.

Honors

If a student wishes to pursue an Honors designation in Religious Studies, two additional requirements must be fulfilled.

- A three-hour Thesis Seminar or Internship, during which a research paper is written, or other suitable research project is carried out.
- Demonstration of competency in a foreign language equivalent to a fourth-semester college-level course.

Notes:

- If students majoring in Religious Studies can use its courses to satisfy requirements in a second major or minor, this is permitted.
- Courses for the major should be drawn from those with a RELI prefix, or from a list of approved courses taught by other departments or programs. See the list of approved courses on the Religious Studies website. Occasionally, courses on religion are taught by outside departments as one-time opportunities. Students may propose these for inclusion in the major to the Religious Studies Program Director.
- The language requirement may be satisfied with American Sign Language (ASL) or, with the approval of the department, coursework in another form of non- English communication (e.g. computer science, statistics, music composition).
- All courses must be passed with a grade of C or better.

Minor

Environmental Values Minor

The minor in Environmental Values explores the vital link among the natural sciences, humanities, and the social sciences in grappling with environmental challenges.

Course Requirements

The minor in Environmental Values may be added to any bachelor's program at UW.

The minor requires a total of 18 credit hours, including at least one course within each of four areas of concentration. At least 12 of these credits must be outside the primary major, and nine of these credits must be at or above the 3000-level. A three-hour, core course (either Phil 2330 Environmental Ethics or Phil 2345 Natural Resource Ethics) is required of all students.

Core Course

A three-hour, core course is required of all students.

- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3

Areas of Concentration:

(note: the courses listed below are provided as examples of the type of courses that meet the various areas of concentration. Other courses may be approved on a course by course basis in consultation with the Philosophy Department Undergraduate Advisor.)

Aesthetics

Expressing ourselves through the performing, visual and literary arts:

- GEOG 4500 - The American Landscape Credits: 3
- THEA 2400 - Vertical Dance I Credits: 1
- THEA 3400 - Vertical Dance II Credits: 1

Culture

Viewing human meaning and purpose in historical and contemporary terms:

- NAIS 3000 - Plains Culture and History Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3

- ENGL 4480 - Regional Literature of the US: The West Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- HIST 4475 - American Environmental History Credits: 3

Ethics

Considering right and wrong via critical and systematic thinking and doing:

- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

Policy

Exploring laws, regulations, and public discourse in American society:

- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

Ethics Minor

A minor in Ethics enhances and compliments any major, such as education, health sciences, law, business, engineering, computer science, political science, or communication.

Course Requirements

A minor in Ethics requires a minimum of 18 hours. One course from each of the three areas plus a capstone course.

A Student Takes One Course in Each of These Areas:

1. Ethical Theory

- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3250 - Global Justice Credits: 3

2. Applications

(other courses determined on a case by case basis in consultation with the Philosophy Department)

- PHIL 2300 - Ethics in Practice Credits: 1-3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 3340 - Philosophy in Literature Credits: 3
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

3. Scientific, Historical and Social Analysis

(other courses determined on a case by case basis in consultation with the Philosophy department)

- PHIL 3100 - History of Modern Philosophy: The Rationalists Credits: 3
- PHIL 3110 - History of Modern Philosophy: The Empiricists Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3160 - "What Killed Socrates?" Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3
- PHIL 4040 - Kant Credits: 3
- PHIL 4120 - Philosophy and the 20th Century Credits: 3
- PHIL 4130 - Figures in Modern and 19th Century Philosophy Credits: 3
- PHIL 4140 - Topics in Philosophy of Science Credits: 3

Capstone Course

The capstone course is an independent study normally taken during a student's senior year. The course integrates the student's different areas of study in the ethics minor into a project or thesis. Any professor in any college can sponsor this independent study. Capstone topics must be approved by the ethics minor advisor. (determined in consultation with the Philosophy Department Undergraduate Advisor)

Electives

The other two courses are approved electives, (2 courses from Areas 1, 2 or 3 -- each from a different area).

Philosophy Minor

Philosophy provides the critical thinking, logical reasoning, and innovative problem-solving skills necessary to be competitive in law, business, academia, tech, arts, and government. It also explores what it is to live a meaningful life outside a career.

Course Requirements

A minor in Philosophy requires a minimum of 18 hours (6 courses) of philosophy.

- Of the 18 hours, 12 hours must be at 3000-level or above.
- Of the 18 hours, the remaining 6 hours (2 courses) may be at any level.

Only courses in which a grade of C or better has been earned count toward the 18-hour requirement.

Religious Studies Minor

The Minor in Religious Studies requires eighteen hours of relevant courses, all with a grade of "C" or higher. These should consist of courses as set out below:

Relevant Courses: 18 Hours

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 4000 - Theories of Religion Credits: 3 (a capstone course)
- Twelve hours of courses focusing on issues in the study of religions, six of which should be at the 3000 level or higher. Occasionally, courses on religion are taught by outside

departments as one-time opportunities. Students may propose these for inclusion in the major to the Religious Studies Program Director

School of Politics, Public Affairs, and International Studies

Arts and Sciences Building, Room 208

(307) 766-6484

Web site: **www.uwyo.edu/sppais**

School Head: **Stephanie Anderson**

SPPAIS Faculty:

Professors:

STEPHANIE B. ANDERSON, B.S.F.S. Georgetown University 1989; M.Sc. The London School of Economics and Political Science 1990; Ph.D. University of Cambridge 1996; Professor of Political Science 2017, 2005.

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

ANDREW D. GARNER, B.S. Kennesaw State University 2002; Ph.D. University of Mississippi 2007; Professor of Political Science 2014, 2008.

JEAN A. GARRISON, B.A. University of Wyoming 1990; M.A. University of South Carolina 1992; Ph.D. 1996; Professor of Political Science, International Studies 2010, 2001.

BRENT L. PICKETT, B.A. Wichita State University 1989; M.A. University of Colorado at Boulder 1991; Ph.D. 1995; Professor of Political Science - Casper 2010, 2005.

ROBERT A. SCHUHMANN, B.S. Appalachian State University 1987; M.P.A. 1989; Ph.D. Virginia Polytechnic Institute and State University 1995; Professor of Political Science 2013, 1995.

Associate Professors:

NEVIN AIKEN, B.A. University of Western Ontario 2003; M.A. 2004; Ph.D. University of British Columbia 2010; Associate Professor of Political Science and International Studies 2016, 2010.

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.

NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Assistant Professor of Geography and International Studies 2016.

ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Assistant Professor of Geography and International Studies 2016.

JUSTIN T. PICCORELLI, B.A. Loyola Marymount University 2004; M.P.A. Cleveland State University 2009; Ph.D. 2014; Assistant Professor of Public Administration 2015.

THOMAS R. SEITZ, B.S. University of the State of New York 1988; M.A. University of Kent at Canterbury 1989; Ph.D. University of Cambridge 1997; Associate Professor of International Studies 2015, 2009.

Assistant Professors:

JASON B. MCCONNELL, B.S. University of Wyoming 1998, MA 2003, J.D. 2005; Ph.D. Washington State University 2017; Assistant Professor of Political Science 2018.

GABEL C. TAGGART, B.S. Brigham Young University 2010; M.P.P. 2013; Ph.D. Arizona State University 2017; Assistant Professor of Public Administration 2018.

RYAN D. WILLIAMSON, B.A. University of Alabama at Birmingham 2011; Ph.D. University of Georgia 2017; Assistant Professor of Political Science 2023.

Senior Academic Lecturer:

ANNE ALEXANDER, B.B.A. New Mexico State University, 1991; M.S. 1993; Ph.D. University of Wyoming,

2001; Senior Academic Lecturer, 2019, 2013; Interim Provost and Vice President for Academic Affairs 2020.

Associate Lecturer:

RUTH BJÖRKENWALL, B.A. University of California at Berkeley, 1989; M.A. 2004; Associate Lecturer 2018, 2013.

Professors Emeriti:

Winberg Chai, Larry Hubbell, James King, Garth Massey, Margaret M. Murdock, Stephen C. Ropp, Oliver Walter

Associate Professor Emeritus:

Alan E. Schenker

Adjunct Faculty:

(see department section following name for academic credentials)

Tanja Börzel, political science, Freie Universitaet Berlin

Roger Coupal, agriculture and applied economics

Michael Harkin, anthropology

Mark Peterson, management and marketing

Thomas Risse, political science, Freie Universitaet Berlin

Amy Roberts, elementary and early childhood education

Chris Rothfuss, international studies

Mona Schatz, social work

Ed Sherline, philosophy

J.J. Shinker, geography

Jim Thurman, international studies, political science - Central Wyoming College

International Studies

Undergraduate Learning Outcomes

- Goal 1: International Studies majors learn to recognize and rigorously examine economic, political, and social-cultural dimensions of international processes and issues.
- Goal 2: Majors develop expertise in an interdisciplinary concentration of their choice, either "Development Studies" or "Security Studies," both of which are in high demand in public, private, and nonprofit sectors.
- Goal 3: Majors learn the importance of distinctions between world regions, as well as to explain the global economic, political, and social-cultural processes by which they are interrelated.
- Goal 4: Majors achieve basic proficiency in a second language and appreciate the benefits of that language for engaging with international processes and issues, including through experiential learning in a foreign locale.
- Goal 5: Majors develop critical reading, writing, analysis, and engagement skills that prepare them for work in internationally oriented government agencies, private enterprises, nonprofits, and nongovernmental organizations

Graduate Learning Outcomes

All students who graduate with a Master's degree in international studies will be able to:

> Engage in independent empirical inquiry that makes an original contribution to the field of study;
>
> Think critically and reason logically about a problem and the ways it can be answered;
>
> Employ the best recognized methods appropriate to their research;
>
> Effectively develop alternative explanations, use theories and concepts to guide the research project, and conduct the work in such a way that disproof is possible; and
>
> Present their work intelligently, with both written and oral capability at a level of professional expectations.

They will have a broad understanding of:

International affairs;

The diversity of national cultures and social structures;

Political and economic systems;

Major global trends and problems

Political Science

Political Science is the study of how societies govern themselves and interact with one another. Courses of instruction in the Political Science major are offered in the following subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration. Areas of focus include analysis of government structures and processes, citizens' influence on government, policy content, philosophical concepts and traditions, political systems of other states, and resolution of conflicts between nations. By developing critical thinking and analytical skills, the major prepares students for effective participation in the political process, successful careers in the public and private sectors, and further study in law, political science, and public administration.

In 1925, the state legislature passed a law requiring the study of the U.S. and Wyoming constitutions by all University of Wyoming students. Political Science 1000 satisfies this requirement, but the requirement can also be satisfied by special examination given periodically by the School of Politics, Public Affairs, and International Studies.

Learning Outcomes

We continuously and actively assess the Political Science undergraduate curriculum to ensure that the following learning outcomes are being met for each of our graduates:

- Acquisition of a knowledge and understanding of the values, beliefs, and institutions that constitute governing processes;
- Acquisition of an understanding of the distinctions among the major subfields of the discipline including: American politics and law; international relations; comparative politics; and political theory;
- Development of a knowledge and understanding of citizens' roles within governing processes;
- Acquisition of a knowledge of the theories and analytic skills necessary to evaluate conflicting arguments, assemble

and present appropriate evidence, and make reasoned conclusions from the evidence available;

- The ability to communicate effectively, both orally and in written form.

Undergraduate Major

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours. Students are required to complete the following four introductory courses: POLS 1000; POLS 1200 or POLS

1250; POLS 2310; and POLS 2460 or POLS 3600. Students are also required to take at least one seminar in political science

(and its prerequisites); 8 hours of a single foreign language or equivalent credit by examination as determined by the

Department of Modern and Classical Languages; STAT 2050 or STAT 2070; and a minimum of 9 hours of upper division credit in political science. A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Undergraduate Minors

The school offers optional undergraduate minors in American politics, international relations and comparative government, public law, and political theory. Eighteen hours are required in each minor, including 9 hours of upper-division courses and one seminar. A maximum of 3 hours of internship credit may be applied towards the 18 hours required for the political science minor. At least 12 credit hours in a minor must be from courses not counted toward the student's major. Information relating to specific courses fulfilling minor requirements may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Teacher Education

The teacher certification program in Secondary Social Studies Education, with a concurrent major in Political Science is available through the College of Education. A minimum 2.500 UW grade point average and a 2.500 grade point average in Political Science and Social Studies content are required to change majors. Further information may be found under the College of Education section in this Catalog.

Graduate Study

The Master of Arts and the master of public administration are offered by the School of Politics, Public Affairs, and International

Studies. The school's mission is to give graduate students an understanding of the theories and methods necessary for success in (1) research or in post-baccalaureate study in any of the subfields in political science, (2) high school teaching in social science, or (3) careers in policy analysis or public administration in local, state, or federal government, or international governmental, non-profit, or non-governmental organizations. Our graduate students have progressed to senior positions in government, the U.S. Foreign Service, and international organizations; they have pursued rewarding careers in education and the private sector; and they have advanced to Ph.D. programs in political science and related fields.

Major

International Studies, B.A.

Students graduating with a degree in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective. uwyo.edu/sppais.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirements

A major in International Studies requires 33 department hours. This includes with 9 hours of INST core courses, 9 upper-division hours in an interdisciplinary "concentration," 9 hours of required "regional study" (3 lower-division and 6 upper-division), and 6 hours of upper-division electives.

International Studies majors are also required to take 15 hours in a single foreign language or achieve fourth-semester proficiency as determined by the Department of Modern and Classical Languages.

All required courses for the major must be passed with a grade of C or better. There are numerous special topics courses offered during the academic year and these courses can fulfill the international studies requirements with approval from your adviser. Students are encouraged to satisfy the USP Q (quantitative reasoning) requirement by taking STAT 2070 - Introductory Statistics for the Social Sciences or STAT2050 - Introduction to Statistics.

Core Courses

Students take 9 hours of core coursework. INST 2350 - Introduction to Global Studies and INST 2310 - Introduction to International Relations provide the theoretical framework for the Development Studies and Security Studies tracks. INST 4950 - Capstone in International Studies (Capstone) provides the culminating experience for students completing the B.A. degree in international studies and fulfills the COM3 writing requirement for the University Studies Program.

- INST 2310 - Introduction to International Relations Credits: 3
- INST 2350 - Introduction to Global Studies Credits: 3
- INST 4950 - Capstone in International Studies Credits: 3

Concentration

International Studies majors will complete a minimum of 9 hours in a chosen area of concentration, choosing either "Development Studies" or "Security Studies".

The course offerings for each concentration are distinct, but they do in some cases overlap. Students who wish to further explore how coursework for one concentration might inform their understanding of coursework eligible for completion of the other concentration are also enabled to do this as part of their "electives". Students can also supplement eligible courses in either concentration with internationally focused courses approved by the student's advisor and the INST Program Director.

Development Studies

Development Studies focuses on theories, practices, and processes in the governance of "social" and "economic" development of communities, at multiple scales (transnational, national, subnational); relations between societies and their environments; and political-economic challenges.

For students who choose this option, 9 credits from the list below must be taken

- INST 3000 - Social Change Credits: 3
- INST 3050 - Economic Geography Credits: 3
- INST 3200 - Comparative Political Cultures Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 3910 - Global Sociology Credits: 3
- INST 4013 - Political Geography Credits: 3
- INST 4100 - Global Public Health Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4215 - European Union Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- INST 4255 - Politics of Developing Nations Credits: 3
- INST 4260 - Democratization and Regime Change Credits: 3
- INST 4340 - International Organizations Credits: 3
- INST 4350 - Culture Change Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- INST 4360 - International Peace and Conflict Credits: 3
- INST 4370 - Global Political Economy Credits: 3
- INST 4375 - Transitional Justice Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3

- INST 4500 - Landscapes of the Americas Credits: 3
- INST 4540 - International Marketing Credits: 3
- INST 4555 - Political Ecology Credits: 3
- INST 4560 - Global Cities Credits: 3
- INST 4570 - Cultural Geography Credits:
- ECON 4700 - Economic Development Credits: 3
- ECON 4720 - International Trade Credits: 3
- ECON 4740 - International Economics and Policy Credits: 3
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3
- INST 4990 - Topics: Credits: 1-6

  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Security Studies

Security Studies focuses on theory, practices, and processes in the governance of perceived insecurities, risks, and threats in social-cultural, political, and economic contexts, including around themes of human security, international relations, war and peace, intelligence, geopolitics, and geostrategy.

- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 4013 - Political Geography Credits: 3
- INST 4100 - Global Public Health Credits: 3
- INST 4175 - Gender, Women, and Health Credits: 3
- INST 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- INST 4255 - Politics of Developing Nations Credits: 3
- INST 4260 - Democratization and Regime Change Credits: 3
- INST 4280 - Comparative Criminal Justice Credits: 3
- INST 4290 - Inter-American Relations Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
- INST 4340 - International Organizations Credits: 3
- INST 4360 - International Peace and Conflict Credits: 3
- INST 4375 - Transitional Justice Credits: 3
- INST 4380 - International History of Human Rights Credits: 3

- INST 4385 - Environment and Resource Conflict Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4582 - 20th Century USForeign Relations Credits: 3
- POLS 4600 - Political Violence Credits: 3
- INST 4705 - Terrorism Credits: 3
- POLS 4870 - Seminar in International Relations Credits: 3
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3
- INST 4990 - Topics: Credits: 1-6

  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Regional Study Requirement

INST majors complete their "regional study" requirement as part of learning about the distinctiveness of different world regions as well as about the interconnections and interdependencies between them. Through "regional study" courses, students come to understand the global economic, political, and social-cultural processes that constitute and cut across world regions. INST majors must take one of the "gateway" options and at least two upper-division offerings, as listed below. Students can supplement the courses listed below with internationally focused courses approved by the student's advisor and the INST Program Director.

Gateway Options

International Studies majors must take 3 credits from the list of course offerings below:

- INST 1060 - World Regional Geography Credits: 3 (offered annually in Spring)
- INST 2230 - Introduction to Asian Studies Credits: 3 (COM2, offered every 2 years)
- INST 2240 - Introduction to African Studies Credits: 3 (COM2, offered every 2 years)
- INST 2250 - Introduction to Latin American Studies Credits: 3 (COM2, offered every 2 years)
- INST 2280 - Introduction to European Studies Credits: 3 (COM2, offered every 2 years)

Upper Division Options

International Studies majors must complete 6 credits of coursework from the below list of offerings:

- MUSC 3015 - Introduction to Global Music Credits: 3
- INST 3100 - Chinese Society Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- AAST 3130 - Global Impact of African Cultures Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- RELI 3250 - Tibetan Buddhism Credits:
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 3933 - African Philosophy Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- SPAN 4190 - 20th and 21st Century Spanish-American Texts Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- RELI 4270 - Buddhist Ethics Credits:
- INST 4290 - Inter-American Relations Credits: 3
- INST 4315 - History, Politics and Memory of the Holocaust in Europe Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4500 - Landscapes of the Americas Credits: 3
- INST 4990 - Topics: Credits: 1-6

  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Electives

Majors are required to complete 6 additional hours of upper-division coursework. This element of the major provides students with flexibility. Majors can complete this element of the major with INST "topics" courses that are not anticipated or are otherwise unlisted among the courses eligible for completing their concentration in "Development Studies" or "Security Studies," or for completing their "regional study" requirement; they can complete more credits towards their concentration than the nine they otherwise need; or they can complete more courses for the regional study requirement than they otherwise need. Students can also supplement the courses available for completion of this aspect of the major (that is, upper-division courses listed under the other requirements of the major) with internationally focused coursework across campus, or study abroad courses, with approval from the student's advisor and the INST Program Director. Some of the courses that might supplement the listed courses as part of a major's "electives" are announced in the Advising Newsletter for the major, which is distributed by the Advising Center during the registration window for each semester.

Foreign Language

All majors must complete 15 credits of the introductory sequence of foreign language courses in one language, consistent with the curriculum in the Department of Modern and Classical Languages (that is, the 1010-1020-2030-2040 sequence in one language). The same sequence (1010-1020-2030-2040) is also available in Arabic, a language program housed in the School of Politics, Public Affairs, and International Studies. Students who already are proficient in a foreign language can instead demonstrate fourth semester proficiency, as evident in a test of proficiency.

International Study Abroad and Internship Opportunities

All International Studies majors are strongly encouraged to consider taking part in a semester long study abroad program or a shorter-term faculty-led international fieldwork or study abroad course taught by UW faculty (typically offered during the Summer and Winter breaks) as a way to earn course credit towards their International Studies degree. In addition, International Studies majors are also encouraged to consider participating in paid or unpaid international internship opportunities as a way of earning additional academic credit towards their International Studies degree. For more information on international study abroad exchanges, faculty-led fieldwork courses and internship opportunities, please visit the UW Abroad Office at: uwyo.edu/geo/eda/index.

Political Science B.A.

Political Science is the study of how societies govern themselves and interact with one another. The Political Science major offers the subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements:

A major in political science requires 33 department hours, 9 of which are upper-division credits.

A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students are also required to take

- at least one seminar in political science (and its prerequisites)
- 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages
- STAT2070 - Introductory Statistics for the Social Sciences Credits: 4
- OR

- STAT2050 - Fundamentals of Statistics Credits: 4
- minimum of 9 hours of upper division credit in political science.

Core Courses

Political Science majors must take 12 credits from the following list of course offerings.

- POLS 1000 - American and Wyoming Government Credits: 3
- POLS 1200 - Non-Western Political Cultures Credits: 3

Or

- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 2460 - Introduction to Political Philosophy Credits: 3

Or

- POLS 3600 - American Political Thought Credits: 3

Electives

Students are required to take 18 hours of elective credits, 9 of which must be upper-division credits.

Electives may be selected from any field within Political Science to reflect the student's particular interests.

- POLS 1200 - Non-Western Political Cultures Credits: 3
- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2000 - Current Issues in American Government Credits: 3
- POLS 2070 - Politics of State and Local Government Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3

- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 2330 - Environmental Ethics Credits: 3
- POLS 2410 - Introduction to Public Administration Credits: 3
- POLS 2430 - Parties, Interest Groups and Elections Credits: 3
- POLS 2450 - Politics and Media Credits: 3
- POLS 2460 - Introduction to Political Philosophy Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (max 6)
- POLS 3050 - Athenian Democracy Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3200 - Comparative Political Cultures Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3 (max 6)
- POLS 3520 - Voting and Participation in America Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 3610 - Classics in Environmental Thought Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- POLS 3680 - Introduction to Empirical Political Analysis Credits: 3
- POLS 4013 - Political Geography Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4260 - Democratization and Regime Change Credits: 3
- POLS 4290 - Inter-American Relations Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4340 - International Organizations Credits: 3

- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4375 - Transitional Justice Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- POLS 4420 - Seminar in Public Administration Credits: 3 (max 6)
- POLS 4430 - United States Presidency Credits: 3
- POLS 4435 - Presidential Elections Credits: 3
- POLS 4445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 4455 - Energy Security Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4520 - Public Opinion Credits: 3
- POLS 4530 - U.S. Congress Credits: 3
- POLS 4550 - Internship in Government Credits: 1-6 *
- POLS 4560 - Washington Semester Program Credits: 15 *
- POLS 4600 - Political Violence Credits: 3
- POLS 4640 - Political Philosophy: Ancient and Medieval Credits: 3
- POLS 4650 - Political Philosophy: Modern Credits: 3
- POLS 4660 - Political Philosophy: Contemporary Credits: 3
- POLS 4685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 4700 - Readings in Political Science Credits: 1-3 (max 6)
- POLS 4705 - Terrorism Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (max 9)
- POLS 4720 - Workshop in Practical Politics Credits: 1-3 (max 6)
- POLS 4810 - Seminar in Political Philosophy Credits: 3 (max 6)
- POLS 4840 - Seminar in Public Law Credits: 3 (max 6)
- POLS 4850 - Seminar in American Politics and Institutions Credits: 3 (max 6)
- POLS 4870 - Seminar in International Relations Credits: 3 (max 6)
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3 (max 6)

*Maximum of 6 hours of internship credit can be applied to the 33 hours required for the major.

Political Science, B.A./M.A.

The Political Science 5 Year B.A./M.A. Program offers highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor's degree (whether B.A. or B.S.) and thereby earn a graduate degree more efficiently. Political science majors with a cumulative major GPA of 3.5 or higher may be invited to apply at the outset of the second semester of the junior year.

Interested students will submit an application and 2 letters of recommendation, at least one from a political science faculty to be reviewed, along with unofficial, current UW transcripts, by the M.A. Director and Committee. Upon provisional acceptance into the program in the junior year, students will be required to take the GRE. GRE scores will be considered for full and final acceptance to the M.A. program, which will be made once the student has completed the bachelor's degree.

Provisional acceptance to the 5 Year B.A./M.A. program in Political Science will allow students to apply up to six credit hours of 5000-level courses toward both the B.A./B.S. and M.A. degree programs. To earn graduate level credit, students must achieve at least a 3.000 in the course. By successfully completing up to six credit hours of graduate coursework during their senior year, these students will have demonstrated their ability to do graduate level coursework as undergraduates, easing their transition into the Master's Program in Political Science. Interested students may reserve up to six additional credits for graduate study that do not apply to the undergraduate degree by securing appropriate approvals as explained in the Registrar's "Request to Reserve Coursework for Graduate Credit" prior to taking the coursework.

Students will be granted the BA/BS upon completion of the credit hours required for the undergraduate degree in political science. Students must complete the BA/BS before formally entering the MA program. To remain in good standing in the program, students must maintain a cumulative and departmental GPA of 3.200 and earn at least a 3.000 in all 5000-level courses. Failure to meet the GPA requirements places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be suspended from the program. Students in the program are encouraged to take the Plan B option. Please see the Graduate Study section to find the degree requirements of the M.A. in Political Science.

Political Science, B.S.

Political Science studies how states govern themselves and interact. Subfields include: American politics, comparative government, international relations, political philosophy,

public law, and public administration with an emphasis on statistical analysis and quantitative methods.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours.

A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students are also required to take

- at least one seminar in political science (and its prerequisites)
- 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4
- minimum of 9 hours of upper division credit in political science.

Introductory Courses

Students are required to complete the following four introductory courses:

- POLS 1000 - American and Wyoming Government Credits: 3

- POLS 1200 - Non-Western Political Cultures Credits: 3

OR

- POLS 1250 - Introduction to Comparative Government Credits: 3

- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 2460 - Introduction to Political Philosophy Credits: 3

OR

- POLS 3600 - American Political Thought Credits: 3

Minor

American Politics Minor

The American Politics minor delves into the mechanics of politcs in the United States by studying historical and current implications.

Requirements

A minor in American Politics requires

- POLS 1000 - American and Wyoming Government Credits: 3

- POLS 4850 - Seminar in American Politics and Institutions Credits: 3

OR

- POLS 4840 - Seminar in Public Law Credits: 3

- 12 hours from an approved list of courses, with a minimum of 9 hours at the 3000-level or above.

Approved American Politics Minor Courses

- POLS 2000 - Current Issues in American Government Credits: 3
- POLS 2070 - Politics of State and Local Government Credits: 3
- POLS 2410 - Introduction to Public Administration Credits: 3
- POLS 2430 - Parties, Interest Groups and Elections Credits: 3
- POLS 2450 - Politics and Media Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3520 - Voting and Participation in America Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4420 - Seminar in Public Administration Credits: 3 (Max. 6)
- POLS 4430 - United States Presidency Credits: 3
- POLS 4435 - Presidential Elections Credits: 3
- POLS 4520 - Public Opinion Credits: 3
- POLS 4530 - U.S. Congress Credits: 3
- POLS 4550 - Internship in Government Credits: 1-6 (dept. approval required)(1-6)
- POLS 4560 - Washington Semester Program Credits: 15 (Max. 6)
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required)(Max. 9)
- POLS 4720 - Workshop in Practical Politics Credits: 1-3 (Max. 6)
- POLS 4840 - Seminar in Public Law Credits: 3 (Max. 6)
- POLS 4850 - Seminar in American Politics and Institutions Credits: 3 (Max. 6)

Asian Studies Minor

The Asian Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of an Asian

region or a single country. The program emphasizes a social science approach to the study of Asian history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Asia is defined first and foremost as a geographic entity to include Western, Northern, Central, South and East Asian areas. Thus, for example, countries such as modern Turkey and areas such as the 'Middle East' can rightly be included in 'Asia' alongside areas more traditionally understood as part of Asia such as China and India.

Course Requirements (18 Credits)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours)

All Asian Studies Minor students must complete one of two required Gateway courses depending on their primary area of interest within Asia.

- INST 2230 - Introduction to Asian Studies Credits: 3 (G/COM2)

OR

- POLS 3270 - Governments and Politics of the Middle East Credits: 3

Asian Studies Area Courses (15 Credit Hours)

Asian Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved Asian Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Asian Studies Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what Asian Studies Area courses are currently being offered.

Approved Asian Studies Area Courses

- ART 2720 - Introduction to the Art and Culture of Islam
- ART 4650 - International Study of Art Credits: 3
- CHIN 1101 - First-Year Seminar Credits: 3
- CHIN 2041 - Contemporary and Traditional Chinese Culture Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2320 - History of Islam Credits: 3

OR

- RELI 2320 - History of Islam Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 3210 - The Islamic World in the Premodern Era
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- GWST 4335 - Women and Islam Credits: 3
- HIST 4520 - Modern Far East: China, Japan and India
- INST 2230 - Introduction to Asian Studies Credits: 3
- INST 3100 - Chinese Society Credits: 3

OR

- SOC 3100 - Chinese Society Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- INST 4560 - Global Cities Credits: 3
- INST 4590 - Sustainable Business Practices Credits: 3

OR

- LANG 2150 - Manga: History and Culture Credits: 3
- LANG 3105 - Major Themes in Chinese and Japanese Literature Credits: 3
- LANG 3140 - Anime: History and Culture Credits: 3
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam Credits: 3
- RELI 2050 - Religions of Asia Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- RELI 3320 - Eastern Thought Credits: 3

OR

- PHIL 3320 - Eastern Thought Credits: 3

- RELI 3340 - Mysticism, Yoga, and Enlightenment in the East Credits: 3
- RELI 3344 - Gods, Avatars, Heroes, and Mystics
- SOC 3050 - Japanese Society

Optional Asian Study Abroad Component

Asian Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Asia to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the Asian Studies Area Course requirement on the approval of the student's designated minor advisor. Optional Asian Foreign Language Component Asian Studies Minor students are also strongly encouraged to learn an Asian foreign language as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower-division (1000-2000) credit hours of an Asian foreign language may be counted towards fulfillment of the Asian Studies Area Course requirement. 'Asian' languages at UW include Japanese, Chinese and Arabic. However, Asian Studies Minor, students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other Asian language instruction at UW, other relevant in-country summer intensive programs, or languagefocused study abroad programs.

European Studies Minor

The European Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of a European region or a single country.

The program emphasizes a social science approach to the study of modern European history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Europe is defined first and foremost as a geographic entity running from the Atlantic to the Urals and from Scandinavia to the Mediterranean and the Caucasus Mountains. Courses that transcend these boundaries should include the study of Europe in a prominent way to count toward the minor.

All required courses for the major must be passed with a grade of C or better. A course cannot simultaneously fulfill more than one major requirement.

Course Requirements (18 Hours)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours)

All European Studies Minor students must complete one of two required Gateway courses, either:

- INST 2280 - Introduction to European Studies Credits: 3 (COM2)

OR

- POLS 2200 - Politics of Europe Credits: 3 (COM2)

OR

- INST 2200 - Politics of Europe Credits: 3 (COM 2)

European Studies Area Courses (15 Credit Hours)

European Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved European Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what European Studies Area courses are currently being offered.

Approved European Studies Area Courses

- A&S 2200 - British Life and Culture
- FREN 2130 - Contemporary French Culture Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4085 - Studies in French Culture
- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 4265 - Divided Nation: Politics and Culture in Germany 1945 - 1990

- GERM 4285 - 20th/21st Century German Film Credits: 3
- HIST 2080 - Holocaust Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4280 - France Since 1814
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- INST 2280 - Introduction to European Studies Credits: 3
- INST 4330 - American Foreign Relations Credits: 3

OR

- POLS 4330 - American Foreign Relations Credits: 3

OR

- SOC 4330 - The World System

- INST 4380 - International History of Human Rights Credits: 3
- INST 4881 - International Social Welfare and Social Development Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 4215 - European Union Credits: 3
- RELI 4150 - Christianity, Jews and Muslims in Iberia
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3

Optional European Study Abroad Component

European Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Europe to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the European Studies Area Course requirement on the approval of the student's designated minor advisor.

Optional European Foreign Language Component

European Studies Minor students are also strongly encouraged to learn an European foreign language (other than English) as part of their progression towards completion

of the Minor. Accordingly, up to eight (8) lower division (1000-2000) credit hours of an European foreign language may be counted towards fulfillment of the European Studies Area Course requirement. 'European' languages at UW include French, German, and Spanish. However, European Studies Minor students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other European language instruction at UW, other relevant in-country summer intensive programs, or language-focused study abroad programs.

International Relations and Comparative Politics Minor

Requirements

A minor in International Relations and Comparative Politics requires

- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 1200 - Non-Western Political Cultures Credits: 3

OR

- POLS 1250 - Introduction to Comparative Government Credits: 3

- POLS 4870 - Seminar in International Relations Credits: 3

OR

- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3

- 9 hours from an approved list of courses, with a minimum of 6 hours at the 3000-level or above.

Approved International Relations and Comparative Politics Minor Courses

- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3200 - Comparative Political Cultures Credits: 3

- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3 (Max. 6)
- POLS 4013 - Political Geography Credits: 3
- POLS 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4260 - Democratization and Regime Change Credits: 3
- POLS 4290 - Inter-American Relations Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4340 - International Organizations Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4375 - Transitional Justice Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- POLS 4445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4600 - Political Violence Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required)(Max. 6)
- POLS 4870 - Seminar in International Relations Credits: 3 (Max. 6)
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3 (Max. 6)

International Studies Graduate Minor

Students graduating with a minor in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Additional Requirements

A graduate minor in international studies provides students in graduate programs other than international studies with the opportunity to acquire a basic graduate-level familiarity with

international relations, global processes and cultural diversity around the world. Students acquire a foundation in intergovernmental relations and research methodology. Beyond this, students work closely with a graduate director to fashion a program of study appropriate for their interests and post-graduate plans. The minor complements several other graduate degree programs.

Prerequisites for Admission

Declaration of an international studies minor is contingent on admission to a master's or doctoral degree program. Application is in the form of a letter of interest to the director of the program, including the background, anticipated course of study, and reason for seeking the minor. An interview with the director is also required. All prerequisites for entering the graduate program in international studies as a major apply to the minor with the exception of proficiency in a second language. Students must be prepared for coursework in international studies at the graduate level and be willing to take prerequisite courses if necessary.

Course and Committee Requirements

Graduate students minoring in international studies must satisfy the requirements of their graduate major and take twelve credits of guided graduate coursework in international studies. With the approval of the department of the graduate major, these twelve hours may also count toward the major. Students are required to take at least one advanced theory course (INST 5200) and one advanced research methods course. All courses will be determined in consultation with the program director.

International Studies Minor

Students graduating with a minor in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Additional Information

A minor in international studies requires 12 hours of a single foreign language and 15 hours of international studies curriculum, with a minimum of 9 hours at the 3000-level or above.

Middle East/North Africa Minor

For the purposes of this minor, we define Middle East/North Africa loosely, to include the peoples, languages, religions and heritages of the wide swath of present-day states from Morocco (west) to Iran (east), and from Turkey (north) to Yemen (south), from ancient times to modern times. This proposal is for a "stand-alone" minor, which can be fulfilled by any UW student in any college, any major.

General Information

- All students must complete a prerequisite of two terms of a relevant Middle East language such as Arabic, Hebrew, Persian (Farsi) or Turkish, or demonstrate proficiency at the one-year level. Students then complete 15-16 credit hours with grade of "C" or higher.
- Students must maintain a 2.0 GPA to complete the Minor.
- Although Arabic is the only Language formally offered at UW, instruction in Hebrew for academic credit is at times available; students may also provide evidence of language proficiency of a minimum equivalent to a 0+ level on the ILR scale, indicating basic familiarity with the language.
- Students who are considering the Minor would typically need to begin planning for this during their Freshman or Sophomore years.
- Pre-existing knowledge of a MENA language, however, would allow for all requirements of the MENA minor to be completed in just two academic years.

Arabic Language & Culture Track

Language prerequisites to Minor

(8 credits, does not count toward minor)

- ARBC 1010 - First Year Arabic I Credits: 4
- ARBC 1020 - First Year Arabic II Credits: 4

Language courses for the minor, required

- ARBC 2030 - Second Year Arabic I Credits: 4
- ARBC 2040 - Second Year Arabic II Credits: 3
- ARBC 3050 - Modern Arabic and its Dialects Credits: 3
- ARBC 3060 - Arabic Writing Credits: 3

Mandatory semester language study abroad or equivalent

Minimum of 3 credits must be from MENA language study abroad in a MENA country. For students that cannot travel abroad, this requirement may be fulfilled by participation in a domestic language immersion program (e.g. Concordia College's Language Villages, among others)

Required Elective course - 3 credits

- HIST 3220 - History of the Modern Middle East Credits: 3

OR

- RELI 3220 - History of the Modern Middle East Credits: 3
- INST 4990 - Topics: Credits: 1-6

*Current Issues in the Arab World
*US Foreign Policy in the Middle East

- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- RELI 2490 - Special Topics in Religion Credits: 1-3

Total number of credits: 16

Middle East/North Africa Studies Track

Language Prerequisite to the Minor

(credits for this do not count toward minor)

- ARBC 1010 - First Year Arabic I Credits: 4
- ARBC 1020 - First Year Arabic II Credits: 4
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4

*for Hebrew or other Middle Eastern language

- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

*for Hebrew or other Middle Eastern language;

Required Content courses

- RELI 3220 - History of the Modern Middle East Credits: 3

OR

- HIST 3220 - History of the Modern Middle East Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3

Distributed requirements

Middle East/North Africa art - 3 credits

One course focused on Middle East/North Africa art

- ART 3002 - Special Topics In: Credits: 3
- ART 3720 - Art and Architecture of Medieval Islam Credits: 3
- ART 4790 - Art Seminar Credits: 1-3

History Focus - 3 credits

One additional course with a focus on History (other than HIST 3220), any period with at least 50% MENA content - must be approved by MENA Studies Program Director.

Electives - 3 credits

- Middle Eastern language study beyond pre-req level, such as ARBC 2030 and above.
- Study abroad in the Middle East: Faculty-Led study abroad courses or intensive or semester courses focused on Middle Eastern languages, cultures, politics, etc.
- Courses from the full list below.

Total Credits - 15

Political Theory Minor

A minor in Political Theory offers an opportunity for interdisciplinary study.

Requirements

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 4810 - Seminar in Political Philosophy Credits: 3

- 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 6 hours at the 3000-level or above.

Approved Political Theory Minor Courses

- POLS 2330 - Environmental Ethics Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3050 - Athenian Democracy Credits: 3
- POLS 3610 - Classics in Environmental Thought Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4640 - Political Philosophy: Ancient and Medieval Credits: 3
- POLS 4650 - Political Philosophy: Modern Credits: 3
- POLS 4660 - Political Philosophy: Contemporary Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 2200 - Politics of Europe Credits: 3 (Max. 6)
- SOC 3900 - Social Theory

Public Law Minor

A minor in Public Law offers an opportunity for interdisciplinary study.

Requirements

- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 3 hours at the 3000-level or above.

Approved Public Law Minor Courses

- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process Credits: 3

- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required) (Max. 6)
- AGEC 3400 - Agricultural Law Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3

- CRMJ 4350 - Sociology of Law Credits: 3

  OR
- SOC 4350 - Sociology of Law Credits: 3
- CRMJ 4540 - Gender and Crime Credits: 3

  OR
- GWST 4540 - Gender and Crime Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3

  OR
- PSYC 4730 - Psychology and Law Credits: 3
- HIST 4515 - American Legal History Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3

Graduate

International Studies, M.A.

MA students will be able to pursue international, interdisciplinary research in order learn about global problems from a variety of historical, political, social, cultural, and economic perspectives.

Plan A (Thesis)

Students are encouraged to construct, with the adviser's approval, a program that focuses their own intellectual interests and career plans. To promote that end, students should be prepared to file a plan of study with the graduate adviser during the second semester of coursework.

No later than the second semester in residence, each student shall select a graduate committee to oversee his or her academic work. The committee will be chaired by the student's major professor and must have at least one member from outside of The School of Politics, Public Affairs, and International Studies. Students also will prepare a thesis proposal and give a presentation of their preliminary project before the International Studies faculty and complete a thesis

prospectus defense with their graduate committee by the end of their second semester.

Students must pass an oral examination at the completion of their program. Normally, examination will center on the thesis, but may also encompass coursework of the candidate.

Required Coursework

Advanced Theory Course

- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

Research Methods Course

- INST 5400 - International Social Science Research Methods Credits: 3

Additional Information

Students take the Plan A (thesis). Students must have a minimum of 26 hours of graded non-thesis coursework and 4 hours of thesis.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree in any major. Foreign students, who are non-native English speakers, must pass the Oral Proficiency Interview (OPI).

Program Specific Degree Requirements

Master's Program

Students must meet three requirements:

- Each student must take INST 5400.
- Each student must take INST 5200.
- Each student must demonstrate proficiency in a foreign language, accomplished in the course of the program or from previous experience or coursework. Foreign language hours do not count toward the M.A. degree.

The program also offers a joint International Studies/Environment and Natural Resources degree. See www.uwyo.edu/sppais for specific degree requirements.

Political Science, M.A.

Political Science studies how states govern themselves and interact. Subfields include: American politics, comparative government, international relations, political philosophy, public law, and public administration.

Degree Requirements

This degree requires 30 hours of graduate credit.

Plan A (Thesis)

Graduate Credit

At least 30 hours of graduate credit, to include:

- At least 6 additional hours of coursework in political science.
- A maximum of 9 hours of coursework in disciplines other than political science.
- A minimum of 4 hours thesis research.
- A master's thesis demonstrating independent research, written under the supervision of the major professor.
- An oral examination conducted by the graduate committee covering all coursework and the thesis.
- No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.
- Students must maintain a graduate GPA of 3.000.
- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

  And
- INST 5400 - International Social Science Research Methods Credits: 3

Plan B (Non-Thesis)

Graduate Credit

At least 30 hours of graduate credit, to include:

- At least 6 additional hours of coursework in political science.

- A maximum of 12 hours of coursework in disciplines other than political science.
- Plan B paper that reflects the quality but not scope of a master's thesis, written under the supervision of the major professor.
- An oral examination conducted by the graduate committee covering all coursework and the Plan B paper.
- No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.
- Students must maintain a graduate GPA of 3.000.
- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

And

- INST 5400 - International Social Science Research Methods Credits: 3

Public Administration (MPA)

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics based program where complicated issues of administrative decision making are the hallmarks of professional life.

Degree Requirements

This degree requires 39 Graduate credits.

Admissions

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI).

Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:

- 24 hours of core credit,
- 15 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no

administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Current Core Courses

Thirty-nine hours of graduate credit, to include:

- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5400 - Public Personnel Management Credits: 3
- PBAD 5410 - Administrative Behavior and Theory of Organization Credits: 3
- PBAD 5440 - Principles and Processes of Government Budgeting Credits: 3
- PBAD 5480 - Ethics In Government Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- PBAD 5684 - Empirical Analysis for Public Administration Credits: 3
- PBAD 5690 - Capstone in Public Management Credits: 3

Approved Elective Credit

- POLS 4052 - Federal Land Politics Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- CRMJ 5000 - Survey of Criminal Justice Credits: 3
- POLS 5051 - Environmental Politics Credits: 3
- CNSL 5060 - Counseling Ethics and Professional Issues Credits: 3
- CRMJ 5100 - Public Policy and Crime Credits: 3
- CRMJ 5151 - Crime Causation Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- CRMJ 5280 - Comparative Criminal Justice Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3

- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 5450 - Administrative Regulation Credits: 3
- PBAD 5460 - Public Administration and Law Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- CRMJ 5500 - Internship in Criminal Justice Credits: 3
- PBAD 5500 - Internship in Public Administration Credits: 1
- EDRE 5530 - Introduction To Research Credits: 3
- POLS 5530 - USCongress Credits: 3
- CRMJ 5540 - Gender and Crime Credits: 3
- PBAD 5540 - Public Policy Perspectives Credits: 3
- PBAD 5560 - Public Administration in Literature and Film Credits: 3
- CRMJ 5590 - Green Criminology Credits: 3
- POLS 5600 - Political Violence Credits: 3
- POLS 5685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- POLS 5810 - Seminar in Political Philosophy Credits: 3
- CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law Credits: 3

Public Administration (MPA/JD)

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics based program where complicated issues of administrative decision making are the hallmarks of professional life.

Admissions

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI).

Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:

- 24 hours of core credit,
- 15 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Current Core Courses

- POLS 5690 - Capstone in Public Management
Credits: 3

Academic Regulations

- A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty (see Academic Regulations). In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in the J.D. program. For additional information regarding these joint degree programs, contact the College of Law or the joint program of interest.
- Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.
- Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course.
- Students must maintain a graduate GPA of 3.000.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

Department of Psychology

135 Biological Sciences Building,
(307) 766-6303
FAX: (307) 766-2926
Web site: www.uwyo.edu/psychology
Department Chair: Sean McCrea

Professors:

KAREN BARTSCH ESTES, B.S. Colorado State University 1981; M.A. Oxford University 1983; Ph.D. University of Michigan 1988; Professor of Psychology 2007, 1992.

KYLE P. De YOUNG, B.S. University of Iowa 2004; M.A. State University of New York at Albany 2008; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

MATTHEW J. GRAY, B.A. Creighton University 1993; M.S. Drake University 1995; Ph.D. University of Mississippi 2000; Professor of Psychology 2014, 2002.

CYNTHIA M. HARTUNG, B.S. University of Wisconsin-Madison 1990; M.A. University of Kentucky 1993; Ph.D. University of Kentucky 1998; Professor of Psychology 2019, 2007.

ALISON R. LOOBY, B.A. University of California-San Diego 2002; M.A. State University of New York at Albany 2007; Ph.D. University at Albany 2011; Professor of Psychology 2024, 2016.

SEAN M. McCREA, B.A. Bucknell University 1996; Ph.D. Indiana University 2002; Professor of Psychology 2019, 2009.

CHRISTINE L. McKIBBIN, B.S. Michigan State University 1991; M.S. University of North Texas 1994; Ph.D. University of North Texas 1997; Professor of Psychology 2019, 2007.

CAROLYN M. PEPPER, B.S. Western Michigan University 1989; M.A. State University of New York at Stony Brook 1992; Ph.D. State University of New York at Stony Brook 1995; Professor of Psychology 2011, 2002.

BENJAMIN M. WILKOWSKI, B.A. Ohio University 2002; M.S. North Dakota State University 2005; Ph.D. North Dakota State University 2008; Professor of Psychology 2020, 2008.

Associate Professors:

JOSHUA D. CLAPP, B.A. University of Wyoming 2003; M.A. State University of New York at Buffalo 2008; Ph.D. 2012; Associate Professor of Psychology 2018, 2012.

MEREDITH E. MINEAR, B.S. University of Illinois at Urbana-Champaign 1994; Ph.D. University of Michigan 2004; Associate Professor of Psychology 2019, 2013.

Assistant Professors:

KAYLA A. BURD, B.A. Hofstra University 2010; M.A. Cornell University 2016; Ph.D. 2018; Assistant Professor of Psychology 2020.

ERIN HARRINGTON, B.S. Valparaiso University 2015; M.S. Oklahoma State University 2017; Ph.D. Oklahoma State State Universit, 2021; Assistant Professor of Psychology 2023.

CHRISTINA MCDONNELL, B.A. University of Notre Dame 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

HANNAH PHALEN, B.A. University of Colorado Colorado Springs 2015; M.S. Arizona State University 2018; J.D. Arizona State University 2019; Ph.D. Arizona State University 2023; Assistant Professor of Psychology 2023.

KASEY STANTON, B.S. Montana State University 2012; M.A. University of Notre Dame 2014; Ph.D. University of Notre Dame 2018; Assistant Professor of Psychology 2021.

Clinical Professors

CATHERINE P. CARRICO, B.A. Austin College; Ph.D. University of Northern Colorado; Clinical Associate Professor 2020.

ANNE STEVENS, B.A. Davidson College 2007, M.A. Appalachian State University 2014; Ph.D. University of Wyoming 2020; Clinical Assistant Professor of Psychology 2021.

Academic Lecturer:

JARROD BOCK, B.S. University of Wisconsin-La Crosse 2013; M.S. University of Wisconsin-Oshkosh 2015; M.S. Oklahoma State University, Stillwater 2017; Ph.D. Oklahoma State University, Stillwater; Assistant Lecturer in Psychology 2024.

TARA K. CLAPP, B.A. State University of New York at Buffalo 2005; M.S. Niagara University 2010; Senior Academic Professional Lecturer in Psychology 2018, 2012.

SCOTT FRENG, B.S. Black Hills State University 1995; M.A. University of South Dakota 1998; Ph.D. University of Nebraska - Lincoln 2001; Senior Lecturer in Psychology 2013, 2003.

MARIA I. KUZNETSOVA, B.A. Syktyvkar State University-Russia 2000; M.S. University of South Carolina-Aiken 2005; Ph.D. Virginia Commonwealth University 2011; Senior Academic Professional Lecturer in Psychology 2017, 2011.

Professor Emeritus

George Blau, David Estes, Charles J. Ksir, Karen B. Nicholas, Narina Nunez

Department Overview

The Department of Psychology offers coursework at several levels:

- Introductory courses for students in other programs who wish an elementary knowledge of psychology.
- Courses supportive of work in other majors.
- An undergraduate major that is sufficiently flexible to allow students to prepare for graduate programs in psychology, professional schools (e.g. law, medicine) or for employment after graduation.
- Graduate course work leading to the Ph.D. in clinical psychology, social psychology, cognition/cognitive development, or psychology and law.

Facilities are available for course work and laboratory experiences in areas of psychology such as clinical, cognition, personality, social, biological psychology, cognitive development, and psychology and law.

Students who wish to increase chances of employment related to their undergraduate majors should consult an adviser concerning areas of specialization within psychology.

Students planning graduate work in psychology should consult with their faculty adviser concerning career choices and development.

Credit by Examination

Credit by examination will be allowed only for PSYC 1000. The examination accepted is the College Level Examination Program (CLEP); the passing score is 50.

Advanced Placement

The psychology department will accept a score of 4 on the AP exam for credit in PSYC 1000, effective Fall 2015.

Major

Psychology, B.S.

Learn empirical approaches to understanding human behavior from biological, clinical, cognitive, developmental, neuroscientific, and social psychological perspectives. Develop skills in critical thinking, communication, and scientific research.

Degree Requirements

B.S. (120 Hours) Grade of C or better required in all major coursework.33 total hours in Psychology (Maximum 60) - 18 hours at the 3000 level or higher

Learning Outcomes

Core Outcome 1: Develop and demonstrate competency in research methods and statistical analysis

Core Outcome 2: Demonstrate basic scientific competence, critical thinking, and problem solving skills

Core outcome 3: Apply knowledge of psychology in the community while intergrating cultural considerations, diversity, equity, and inclusion

Core outcome 4: Acquire broad knowledge across subfields within psychology

Core outcome 5: Understand and demonstrate professional and ethical knowlege and responsibility

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

D - Diversity 3 credits
G - Global 3 Credits

Students Must Complete the Following Courses:

- PSYC 1000 - General Psychology Credits: 3
- PSYC 2000 - Research Psychological Methods Credits: 4

Four of Five Cores:

Biological Core

- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- PSYC 2080 - Biological Psychology Credits: 3

Social Psychology Core

- PSYC 2380 - Social Psychology Credits: 3

Clinical Core

- PSYC 2340 - Psychopathology Credits: 3

Cognitive Core

- PSYC 3120 - Cognitive Psychology Credits: 3

Developmental Core

- PSYC 2300 - Psychology of Child Development Credits: 3

One of the Following

Additionally **one** of the following restricted enrollment (seminar or writing intensive) courses is required:

- PSYC 4150 - Cognitive Development Credits: 3
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3
- PSYC 4350 - Psychology of Adulthood Credits: 3
- PSYC 4380 - Death and Dying Credits: 3
- PSYC 4390 - Personality Science Credits: 3
- PSYC 4400 - Principles of Psychological Testing Credits: 3
- PSYC 4740 - Advanced Social Psychology Credits: 3
- PSYC 4860 - Seminar Credits: 1-6
- PSYC 4040 - Cognitive Neuroscience Credits: 4

A total of 18 hours at the 3000 level or higer are required

Also Required

Also required are

- 6 hours of anthropology, communication/journalism, criminal justice, economics, political science, or sociology;
- LIFE 1003 - Current Issues in Biology Credits: 4

OR

- LIFE 1010 - General Biology Credits: 4

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

STEM Course

One approved 3-4 credit hour STEM course:

- CHEM 1000 - Introductory Chemistry Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- ESS 4001 - Analysis of Nature's Data Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- ZOO 2040
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 2041
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MICR 2021 - General Microbiology Credits: 4
- MICR 4001 - Epidemiology (Diseases in Population) Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- PHYS 1050 - Concepts of Physics Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2000 - Statistics and the World Credits: 3
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3

Additional Requirements

A major requires a minimum of 33 semester hours and may not exceed 60 hours in psychology. Of these, 18 hours must be at the 3000 level or above. These upper-division courses must also be taken from at least two different members of the psychology department faculty listed in this *Catalog*.

Students who have an established UW GPA and who wish to change their major to Psychology, or to add Psychology as a major, will be required to have a UW GPA of at least 2.500.

For graduation, students must receive a C or better grade in all courses taken to satisfy department requirements.

Psychology courses taken 15 or more years ago will not be used to satisfy degree requirements.

Minor

Aging Studies Minor

The aging studies minor program provides students with a comprehensive understanding of the challenges and opportunities associated with an aging population and prepares them to contribute to the development of policies and programs that promote healthy aging and enhance the quality of life for the elderly.

Degree Requirements

A minor in aging studies requires 18 credit hours.

Core Courses

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- PSYC 3400 - Community Resources for Older Adults Credits: 3
- PSYC 4970 - Aging Minor Internship Credits: 1-6

Electives

(9 credits hours - 6 credits must be outside student major) An interdisciplinary program, current approved courses are offered through the College of Agriculture, College of Arts and Sciences, and College of Health Sciences.

Background Check

Students seeking the minor in Aging Studies will be required to obtain a background check. Please contact us for specific information.

Psychology Minor

Learn empirical approaches to understanding human behavior from biological, clinical, cognitive, developmental, neuroscientific, and social psychological perspectives. Develop skills in critical thinking, communication, and scientific research.

Degree Requirements

A minor in psychology requires 18 semester hours in psychology. These must include PSYC 1000 or equivalent and 9 hours at the 3000- level or above. A grade of C or better is required in all minor courses.

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Graduate

Psychology, Ph.D.

The Department of Psychology offers the doctor of philosophy in psychology with programs in clinical (APA accredited) psychology, social psychology, cognition/ cognitive development, and psychology and law.

Degree Requirements

minimum of 72 hours to include at least 42 hours of coursework.

Doctoral Programs

- Clinical Psychology
- Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Program Specific Admission Requirements

The deadline for receipt of all application materials is December 1.

We only admit students one time per year. Our graduate students begin their programs of study in the fall semester.

Although our graduate programs technically consist of separate master's and doctoral degree components, only students who are applying for, and who expect to complete, the doctoral program are considered for admission. That is, we do not offer a terminal master's degree.

Application materials include the application, one to two page statement of purpose, undergraduate and graduate (if

applicable) transcripts, curriculum vitae, and three letters of recommendation. An application fee of $50 is required.

Applications are evaluated based on the applicants' academic qualifications (e.g., undergraduate GPA, graduate GPA if applicable, course specific grades) and stated research and (if applicable) clinical interests. Particular attention is paid to the goodness of fit between the applicant's expressed research/clinical interests and the particular strengths and offerings of our program.

Our program does not employ a set of formal "cut-offs" with regard to any of the quantitative application elements (e.g., undergraduate/graduate GPA). Often a strong record in one area may make up for a weakness in another area. Applicants interested in information on the qualifications of admitted students should consult the student summary data (www.uwyo.edu/psychology).

Program Specific Graduate Assistantships

Applicants are considered for graduate assistantships at the time of admission. Graduate students typically receive some departmental financial support for the first four years.

Doctoral Programs

Clinical Psychology

Students complete a four-year, on-campus sequence of required courses covering core areas of psychology and clinical competency. In addition, the following are required: successful completion of a thesis, a preliminary comprehensive examination, a dissertation, one summer clerkship, and a full year APA accredited internship.

Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Students complete course requirements in topics designated as core areas of psychology, a preliminary comprehensive examination, and a research-based dissertation.

Department of Theatre and Dance

2099 Buchanan Center for the Performing Arts, (307) 766-5100
Email: theatre_dance@uwyo.edu

Web site: uwyo.edu/thd/
Department Head: Christie Zimmerman

Professors:

CECILIA ARAGÓN, B.S. McMurry University 1991; M.A. University of New Mexico 1996; Ph.D. Arizona State University 2003; Professor of Theatre & Dance 2017, 2005.

CHRISTIE ZIMMERMAN, B.A. University of New Orleans 2000; M.F.A. University of California, Irvine 2002; Professor of Theatre & Dance 2023.

Associate Professors:

Assistant Professors:

ERIN CARTER, B.F.A. Webster University, 2016; M.F.A. University of Tennessee, Knoxville, 2019; Assistant Professor, Theatre & Dance, 2023.

MATTHEW GREENBERG, B.F.A. Ithaca College, 2015; M.F.A. The Ohio State University, 2021; Assistant Professor, Theatre & Dance, 2022.

SCOTT TEDMON-JONES, B.F.A. University of Wyoming, 2001; M.F.A Carnegie Mellon University, 2010; Assistant Professor, Theatre & Dance, 2018.

CAT KAMRATH MONSON, B.A. Loyola Marymount University, 2013; M.F.A. University of Utah, 2016; Assistant Professor, Theatre & Dance, 2022.

AARON WOOD, B.F.A. University of Wyoming, 2003; M.F.A. University of Utah, 2007; Assistant Professor, Theatre & Dance, 2022.

Assistant Lecturers:

JASON BANKS, B.F.A. University of Florida 2004; M.F.A. The Ohio State University 2007; Assistant Lecturer, FTRC, 2020.

LANDEE LOCKHART, B.T.D. University of Wyoming, 2001; B.A. University of Wyoming, 2001; M.F.A. University of Houston, 2006; Assistant Lecturer, FTRC, 2022.

JULIANA FREUDE, B.A. University of Toledo, 2018; M.F.A. St. Mary's College of California, 2020; Assistant Lecturer, FTRC, 2022.

Emeritus Professors:

Larry Hazlett, Rebecca Hilliker, Leroy Hodgson, Marsha Knight, Patricia Tate, Ron Steger, Lee Selting, Margaret Wilson

Degrees Offered

The Department of Theatre and Dance offers curricula leading to the Bachelor of Arts (BA) degree and the Bachelor of Fine Arts (BFA) degree and courses which fulfill a part of University Studies and various colleges' requirements, including the College of Arts and Sciences.

Curricula

Students may not take a course for S/U credit to satisfy course requirements in the major. This does not apply to courses offered for S/U only. Requirements for students majoring in the areas of the department are indicated below.

Theatre

The study of theatre provides students with a broad understanding of the art of theatre in a liberal arts college. The study of theatre is considered to provide a basis for more specialized theatre study in a graduate or professional school. The liberal arts education in theatre together with extensive experience in the production program also provides the foundation for a professional career in theatre, motion pictures, or television drama for those individuals with special desires and abilities. Secondary teaching certification in theatre can be obtained through this program of study.

Dance

The dance concentration within the Department of Theatre and Dance is designed to provide students with a broad foundation in the humanities and specific emphasis in performance and production aspects of dance. Students pursuing this course of study will have opportunities to attain technical competency in ballet and/or modern dance, to perform in yearly dance productions, to obtain practical experience in the fundamentals of teaching dance and to gain experience in technical theatre as an aid to dance production. The program seeks to provide a comprehensive view of dance as an artistically expressive medium, as well as a creative and recreational tool to human expression.

Students completing this program will qualify for more advanced private instruction as well as advanced academic instruction.

All dance students are matriculated into the BA degree. Students wishing to apply for the BFA in Dance Performance

or BFA in Dance Science do so the second semester of their freshman year.

Students must receive a C or better in all courses designated THEA to satisfy department degree requirements. A student's transfer courses in Theatre and Dance must also reflect a C or better to be accepted for credit. A grade of C- does not meet the requirement.

Outcomes:

Our goal is to nurture artists and scholars within aesthetic, social, critical, historical and contemporary performance and dance idioms, who appreciate cultural literacy and respect diversity, who think critically, who master discipline-specific performance and production skills, and who foster knowledge and make compelling artistic choice on stage.

The Theatre and Dance Department expects that upon graduation all students will be able to:

- Demonstrate or detail the basic production process and make an informed assessment of quality in all areas of theatre and dance,
- Honor and represent historical, contemporary, and cultural diversity in academic and performance settings,
- Articulate the intersection of their personal, aesthetic, and social/political ideas in relation to a particular play, performance work or production,
- Develop collaborative skills, communicate effectively and function in a variety of contexts with self-knowledge, resilence, and resourcefulness, both in performance and in creation,
- Understand the demands and expectations of the profession,
- Synthesize and utilize knowledge from courses in the breadth of the discipline,
- Recognize and be familiar with postgraduate training opportunities in professional theatre, dance and academia.

Scholarships

A number of scholarships are available to interested majors in theatre and dance. Please visit www.uwyo.edu/thd/scholarships/index.html for more information.

Departmental Activities/ Organizations

The department sponsors one of the largest all-student activities on campus. Nearly 150 students take part in its

productions each season. All students are eligible to participate in its productions through auditions.

Productions are mounted in the Buchanan Center for the Performing Arts which includes a flexible proscenium theatre, thrust theatre and experimental-studio theatre complete with scenic and costume support facilities.

Auditions are publicly announced for each production. Qualified students may receive credit in performance and production areas (THEA 2050).

Graduate Study

At present, no program for graduate degrees in theatre and dance is offered.

Major

Theatre and Dance, Acting Performance Concentration, B.F.A.

The BFA in Acting Performance is designed for those students pursuing pre-professional training in theatre and or / for those preparing to enter performance focused graduate programs.

This degree requires 70-71 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Acting Concentration: *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2444 - Stage Management Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3750 - Acting for the Camera Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 4820 - Directing I Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3
- Foreign Language Credits: 8

    A&S Global Credits: 3

    A&S Diversity Credits: 3

Three Hours From the Following:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Theatre and Dance, B.A.

The Bachelor of Arts in Theatre and Dance is designed to provide training for professional careers in theatre, dance, and many other performing arts.

Tracks:

- Theatre and Dance, Theatre Track, B.A.
- Theatre and Dance, Dance Track, B.A.

Theatre and Dance, Dance Performance Concentration, B.F.A.

The BFA in Dance Performance provides extensive, holistic, and well-rounded training for physical, creative, and intellectual development. Students will establish a strong foundation in dance technique, creative and teaching practices, kinesiology, history, and more. This degree track supports careers in all fields of dance, including but not limited to performance, choreography, and education. Majors are supported by dance faculty and artists who are current professionals in the dance field. The degree culminates in a student-driven final project.

Admission to the BFA in Dance Performance program is by application after 2 semesters of enrollment.

This degree requires 71-74 credits in the major, 44 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Dance Performance Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1405 - Movement Fundamentals & Conditioning Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2160 - Stage Makeup Credits: 2

  OR
- THEA 2230 - Stage Lighting I Credits: 3

  OR
- THEA 3820 - Costume Design I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2420 - Intermediate Ballet II Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 2450 - Intermediate Tap I Credits: 1
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3021 - Foundations of Dance Pedagogy Credits: 1
- THEA 3100 - Kinesiology for Dance Credits: 3
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- THEA 3490 - Advanced Jazz I Credits: 1
- THEA 4001 - Historical Dance Credits: 2
- *Plus 8 credits total in any combination of THEA 4010 and THEA 4030*

- THEA 4010 - Advanced Ballet Credits: 1-3

- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4200 - Dance History II Credits: 3

- THEA 4250 - Beginning Dance Composition Credits: 2
- THEA 4260 - Intermediate Dance Composition Credits: 2-3
- THEA 4700 - Professional Seminar in Dance Credits: 1
- THEA 4880 - Advanced Theatre Practice Credits: 1
- THEA 4880 - Advanced Theatre Practice Credits: 1-2

- THEA 4950 - Senior Thesis Credits: 3

OR

- THEA 4960 - Senior Project Credits: 1-3

- THEA 4975 - Theatre/Dance Internship Credits: 1-12

- LIFE 1000 Credits: 4

OR

- LIFE 1010 - General Biology Credits: 4

OR

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4

- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- Foreign Language Credits: 8
- First Aid/CPR Credits: 0

A&S Global Credits: 3
A&S Diversity Credits: 3

Theatre and Dance, Dance Science Concentration, B.F.A.

The BFA in Dance Science is a professionally oriented degree for students interested in a career in research, science, or movement studies. The degree pairs dance training and theory with courses in Departments of Kinesiology and Health Promotion, Psychology, Nutrition, and more! Majors are supported by current dance faculty and a wide network of BFA in Dance Science alumni who are working in diverse science fields. The degree culminates in a student-driven final research project.

Admission to the BFA in Dance Science program is by application after 2 semesters of enrollment.

This degree requires 78 credits in the major, 44 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Dance Science Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1405 - Movement Fundamentals & Conditioning Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2420 - Intermediate Ballet II Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3021 - Foundations of Dance Pedagogy Credits: 1
- THEA 3100 - Kinesiology for Dance Credits: 3
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- *Plus 2 credits total in any combination of THEA 4010 and THEA 4030*

- THEA 4010 - Advanced Ballet Credits: 1-3

- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4200 - Dance History II Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2
- THEA 4260 - Intermediate Dance Composition Credits: 2-3
- THEA 4880 - Advanced Theatre Practice Credits: 1-2
- THEA 4990 - Research in Theatre Credits: 1-3
- LIFE 1010 - General Biology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- PSYC 1000 - General Psychology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3

- KIN 4020 - Motor Behavior Credits: 3

  OR
- KIN 3034 - Lifespan Motor Development Credits: 3

- KIN 3037 - Sport Psychology Credits: 3

  OR
- KIN 3038 - Exercise Psychology Credits: 3
- Foreign Language Credits: 8

  A&S Global Credits: 3

  A&S Diversity Credits: 3

Additional Upper-division Required Course Work

(minimum 6 hours from the following courses):
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3040 - Teaching Human Anatomy Credits: 3
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- PSYC 3120 - Cognitive Psychology Credits: 3
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4070 - Motivation Credits: 3

Theatre and Dance, Design Tech Management Concentration, B.F.A.

The BFA in Design/Technical Management is a professionally oriented degree for students interested in pre-

professional theatre design, production and management or graduate study. Students will gain experience in all aspects of technical theatre, including scenic, lighting, costumes, sound, projections and stage management. Coursework includes both design and production courses created to equip students with both the conceptual and practical skills necessary to succeed in technical theatre.

This degree requires 69-70 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Design Tech Management Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1050 - Beginning Drawing and Painting Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2220 - Stagecraft Credits: 3

- THEA 2250 - Computer Aided Design I Credits: 3
- THEA 2444 - Stage Management Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 2185 - Period Style for Theatre I Credits: 3
- THEA 2215 - Period Style for Theatre II Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3805 - Stage Lighting 2 Credits: 3
- THEA 3810 - Scene Design I Credits: 3
- THEA 3820 - Costume Design I Credits: 3
- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4810 - Scene Design II Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4850 - Costume Design II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3

Foreign Language Credits: 8
A&S Global Credits: 3
A&S Diversity Credits: 3

Recommended Electives:

- THEA 2145 - Costume Construction Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2320 - Scenic Painting for the Theatre Credits: 3
- THEA 2390 - Sound Design for Theatre and Dance Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Theatre and Dance, Musical Theatre Performance Concentration, B.F.A.

The BFA in Musical Theatre Performance is designed for those students pursuing pre-professional training in musical theatre and/or for those preparing to enter performance focused graduate programs.

This degree requires 60-70 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

The following are the required courses for a Bachelor of Fine Arts in Performance (Musical Theatre):

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 1360 - Fundamentals of Music for Theatre Majors Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2300 - MT Workshop: Scene Study Credits: 1
- THEA 2340 - Musical Theatre Voice Lesson Credits: 1

- THEA 2155 - Movement for Actors I Credits: 2

  OR
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 2444 - Stage Management Credits: 3
- THEA 3300 - MT Workshop: Production Credits: 1-2

- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3

- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- Foreign Language Credits: 8
- Plus two additional dance courses

Credits / Units: 2-3

A&S Global Credits: 3

A&S Diversity Credits: 3

Plus 3 Hours From the Following:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Theatre and Dance, Theatre/English Concentration, B.F.A.

The BFA in Theatre and Dance, Theatre/English concentration is designed primarily for students who seek additional professional education and certification, or for those who wish to enter graduate programs.

This degree requires 60-70 credits in the major, 39 of which are upper-division credits.

University Studies Program Requirements

The University Studies Program 2015

- FYS- First Year - Seminar Credits: 3
- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

Required Courses

These are the required courses for a B.F.A. with Theatre/English Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3810 - Scene Design I Credits: 3
- THEA 3820 - Costume Design I Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4830 - Directing II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3
- ENGL 2000 Credits 6
- ENGL 4000 Credits: 9
- ENGL 4110 Credits: 3

  OR
- ENGL 4120 Credits: 3
- Foreign Language Credits: 8

  A&S Global Credits: 3

  A&S Diversity Credits: 3

Minor

Theatre and Dance, Acting Performance Minor

This minor provides options for students only involved with Theatre training while pursuing other majors or concentrations within the Department.

Learning Outcomes

- **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, methods, and tradition of acting as a field.
- **Methods/Styles**: Students will develop familiarity with a wide range of methods, styles, and approaches to acting.
- **Production Experience**: Students will develop familiarity with the scope and process of being an actor in a rehearsal process.
- **Communication Skills**: Students will learn proper rehearsal communication and collaboration skills.

Rationale:

To provide an opportunity for students to Minor in Acting Performance, with 6 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Theatre training while pursuing other majors or concentrations within the Department.

Required: 6 Credits

- THEA 1100 - Acting I Credits: 3
  OR
- THEA 2100 - Acting II Credits: 3
- THEA 3710 - Acting III Credits: 3

Electives: 12-15 Credits

Choose from:

- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2170 - Voice and Speech for the Actor Credits: 3

- THEA 2155 - Movement for Actors I Credits: 2
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 3740 - Acting Styles Credits: 3
- THEA 3750 - Acting for the Camera Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2

Optional: Maximum of 2 Credit Hours of Dance

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Total Credit Hours: 18-21

Theatre and Dance, Dance Minor

Required Courses

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2 **

Ballet Technique: 5-6 Credit Hours

Four (4) Consecutive Classes in Ballet Technique.* Choose From:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1420 - Beginning Ballet II Credits: 1
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 4010 - Advanced Ballet Credits: 1-3

Modern Technique: 5-6 Credit Hours

Four (4) Consecutive Classes in Modern Technique.* Choose from:

- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1440 - Beginning Modern II Credits: 1
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 4030 - Advanced Modern Dance Credits: 1-3

Jazz or a Mix of Jazz and Tap Class: 2 Credit Hours

Two (2) Consecutive Classes in Jazz or a Mix of Jazz and Tap Classes.* Choose from: 2

- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1
- THEA 2450 - Intermediate Tap I Credits: 1
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- THEA 3490 - Advanced Jazz I Credits: 1

Elective at 3000-4000 level: 2-3 Credit Hours

Suggested:

- THEA 4010 - Advanced Ballet Credits: 1-3
- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4001 - Historical Dance Credits: 2

  OR
- THEA 4200 - Dance History II Credits: 3 (COM3)

Minor Total 17.5-22.5

Theatre and Dance, Design, Technology, and Management Minor

This minor provides options for students only involved with Design, Technology, and Management while pursuing other majors or concentrations within the Department.

Learning Outcomes:

- **Core Knowledge:** Students will demonstrate competency in the foundational vocabulary, methods, and tradition of production and design. Students will be expected to analyze, evaluate, and revise their work based on their understanding of the core competencies of the production and design.
- **Methods/Styles:** Students will experience and develop an understanding of the production and design process by exposure to a wide range of methods, styles, and approaches. Projects will include theoretical and hands-on experiences.
- **Production and Educational Experience:** Students will develop an understanding of the scope and process of being a technician, manager, and designer as part of the production and design process. Students will create theoretical work and have the opportunity to collaborate through production assignments on realized work as part of the Department of Theatre and Dance's production season.
- **Communication Skills:** Students will learn and apply professional communication and collaboration skills as pertains to all aspects of the production and design process. Students will create portfolio quality examples of industry-specific documentation and design material that facilitates communication during the production and design process.

Rationale:

To provide an opportunity for students to minor in Design, Technology and Performance, with 6 credit hours required, and a menu of options in two areas for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Design, Technology, and Management while pursuing other majors or concentrations within the Department.

Required:

6.5 credits

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2145 - Costume Construction Credits: 3

Electives:

9 credits

Choose 3 design/technical management courses from this group

- THEA 1050 - Beginning Drawing and Painting Credits: 3
- THEA 2150 - Drafting for Design Credits: 3

- THEA 2250 - Computer Aided Design I Credits: 3
- THEA 2444 - Stage Management Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 2390 - Sound Design for Theatre and Dance Credits: 3
- THEA 3000 - Special Topics in Theatre Credits: 3
- THEA 3810 - Scene Design I Credits: 3 *
- THEA 3820 - Costume Design I Credits: 3

Electives:

5-6 credits

Choose 2 upper division design/technical management courses from this group

- THEA 3805 - Stage Lighting 2 Credits: 3
- THEA 3830 - Video Design for Live Theatre Credits: 3
- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 3890 - Lighting CADD Credits: 3 **
- THEA 4810 - Scene Design II Credits: 3
- THEA 4850 - Costume Design II Credits: 3

  * THEA 2150, Drafting for Design is a prerequisite or consent of instructor.
  **Course taught as needed.

Total credit hours: 20.5-21.5

Recommended Electives (independent studies):

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 4880 - Advanced Theatre Practice Credits: 1-2
- THEA 4990 - Research in Theatre Credits: 1-3

Theatre and Dance, Musical Theatre Performance Minor

This minor provides options for students only involved with Musical Theatre training while pursuing other majors or concentrations within the Department.

Learning Outcomes

- **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, methods, and tradition of musical theatre as a field. Students will learn the history and creation of the American musical and apply these traditions to contemporary practice.
- **Methods/Styles**: Students will develop and demonstrate an understanding of how music and song are used as a storytelling language.
- **Production Experience**: Students will develop and improve upon musical theatre performance skills, in both traditional and belt styles.
- **Communication Skills**: Students will learn practice and decorum for a professional rehearsal environment.

Rationale:

To provide an opportunity for students to minor in Musical Theatre Performance with 10 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Musical Theatre training while pursuing other majors or concentrations within the Department.

Required:

10 Credits

- THEA 1100 - Acting I Credits: 3
  OR
- THEA 2100 - Acting II Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2300 - MT Workshop: Scene Study Credits: 1
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 1360 - Fundamentals of Music for Theatre Majors Credits: 3

Electives:

8-11 Credit Hours

Choose from:

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2340 - Musical Theatre Voice Lesson Credits: 1
- THEA 3300 - MT Workshop: Production Credits: 1-2

- THEA 3740 - Acting Styles Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2

Optional: Maximum of 2 Credit Hours of Dance

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Total credit hours: 18-21

Theatre and Dance, Theatre Dramaturgy Minor

This minor provides options for students only interested in History and Dramaturgy while pursuing other majors or concentrations within the Department.

Learning Outcomes:

- **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, structures, processes, and history of the field of dramaturgy.
- **Research/analysis**: Students will become well-versed in a range of research techniques and analytical lenses, as well as learning how to apply these concepts to script analysis and production critique.
- **Production Experience**: Students will develop familiarity with the scope and process of dramaturgy as it pertains to rehearsal and production participation.
- **Communication Skills**: Students will be able to communicate ideas clearly and effectively in writing, during meetings, and in rehearsal.

Rationale:

To provide an opportunity for students to minor in Theatre Dramaturgy, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. The Dramaturgy minor focuses on history and interpretation and is an area of interest in our

theatre concentration. This minor provides options for students only interested in History and Dramaturgy while pursuing other majors or concentrations within the Department.

Required:

12 credits

- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3

Electives:

6-9 credits

Choose from:

- THEA 1100 - Acting I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2060 - Introduction to Performance Studies Credits: 3
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2185 - Period Style for Theatre I Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4200 - Dance History II Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 4820 - Directing I Credits: 3
- THEA 4830 - Directing II Credits: 3
- THEA 4990 - Research in Theatre Credits: 1-3

Total credit hours: 18-21

Theatre and Dance, Theatre for Young Audiences Minor

To provide an opportunity for students to minor in Theatre for Young Audiences, with 12 credit hours required, and a

menu of options for maximum flexibility in reaching the 18-21 hour minor requirement.

Learning Outcomes

1. Core Knowledge: Students will demonstrate competency in the basic vocabulary, methods, and traditions of Theatre Education, Children's Theatre, and Theatre for Young Audiences as a field of study in research and practice. Students will practice an understanding of age appropriate material in educational, recreational, and theatrical settings.

2. Methods/Styles: Students will develop familiarity with a wide range of methods, styles, and approaches for children and youth theatre making. Students will gain understanding of a variety of teaching methods and practices for creative drama and theatre making.

3. Production and Educational Experience: Students will work with a variety of educational, community, and non-profit organizations where students engage in observing and creating theatre with children and youth. Student will gain experience in directing and producing creative drama and theatre for young audiences. Students will write educational materials effectively for the field of TYA such as lesson plans, study guides and other educational support materials.

4. Communication Skills: Students will articulate an advocacy position regarding the role of the arts in the lives of young people and voice a philosophy of teaching theatre/drama with children and youth. Students will develop and gain familiarity with the values and state/national standards in the creation of theatre with and for young people.

Rationale:

To provide an opportunity for students to minor in Theatre for Young Audiences, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. Currently we have a K-12 Theatre education endorsement within the College of Education. This program would remain, but the Theatre for Young Audiences minor can provide the courses in the major without the College of Education requirements. We feel this will be a popular minor for students wishing to work with youth in educational or community settings.

Required:

12 credit hours

- THEA 2005 - Creative Drama in the Classroom Credits: 3
- THEA 3600 - Teaching Theatre in Elementary or Secondary School Credits: 3
- THEA 3650 - Theatre for Young Audiences: Plays and Production Credits: 3
- THEA 4600 - Teaching Theatre Artists: Service Learning in the Community Credits: 3

Electives:

6-9 credit hours

Choose from:

- THEA 1100 - Acting I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2220 - Stagecraft Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4820 - Directing I Credits: 3

Total credit hours: 18-21

Theatre and Dance, Theatre Minor

Required Courses

*THEA 2150 is a prerequisite for THEA 3810

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1100 - Acting I Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5

- THEA 2220 - Stagecraft Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3

  OR
- THEA 3810 - Scene Design I Credits: 3 *

  OR
- THEA 3820 - Costume Design I Credits: 3
- Plus 3 hours of electives in Theatre and Dance (must be 4000 level or above)

Department of Accounting and Finance

252 East Business Building,
(307) 766-3807
FAX: (307) 766-3802
Web site: www.uwyo.edu/acct-fin
Department Chair: Mitchell Oler

Professor:

ALI NEJADMALAYERI, B.Sc. University of Tehran 1993; M.B.A. Texas A&M University-Kingsville 1997; Ph.D. University of Arizona 2001; Professor of Finance 2018.

Associate Professors:

NICOLE CHOI, B.A. Chungbuk National University 2002; M.B.A. Washington State University 2004; Ph.D. 2009; Associate Professor of Finance 2015.

MITCHELL OLER, B. of Commerce, University of Alberta 1997; M.S. Brigham Young University 1998; Ph.D. University of Washington 2006. Associate Professor of Accounting 2019, 2015.

KENNETH ZHENG, B.A. Southwestern University of Finance and Economics, China; M.S. University of Texas at Dallas 2007; Ph.D. University of Texas at Dallas, 2011; Associate Professor of Accounting 2021, 2015.

Assistant Professors:

TA-TUNG (STEPHANIE) CHENG, B.S. National Chengchi University 2010; M.S. Michigan State University 2013; Ph.D. Georgia State University 2020; Assistant Professor of Accounting 2020.

MACKENZIE FESTA, B.S. West Virginia University 2010; M.P.A. 2013; Ph.D. 2017; Assistant Professor of Accounting 2017.

TREVOR SORENSEN, B.S. Brigham Young University 2010; M.S. Brigham Young University 2010; Ph.D. 2016; Assistant Professor of Accounting 2022.

PATRICK WITZ, B.B.A. University of Massachusetts at Amherst 2012; Ph.D. Cornell University 2020; Assistant Professor of Accounting 2020.

Academic Professionals:

JAMES GUNDERSON, B.A. University of Nebraska 1977; Ph.D. University of Minnesota 2004; Assistant Lecturer of Finance 2014.

JENNIFER A. KREISER, B.S. University of Alabama 2001; M.S. 2002; Senior Lecturer of Accounting 2019.

STEVEN LUPIEN, B.S. Sacred Heart University; M.A. Finance Fairfield University; Lecturer and Director of the Center for Blockchain and Digital Innovation; 2019.

ANDREW MCKAMEY, B.S. Colorado State University; M.S. Colorado State University; Assistant Lecturer of Accounting 2020.

PHILIP W. TREICK, B.S. University of South Florida 1987; Assistant Lecturer of Finance 2016.

Emeriti:

Penne L. Ainsworth
Richard G. Elmendorf
George R. McGrail
Suzanne S. Roe
Frederic P. Sterbenz
Kenton B. Walker
Stuart K. Webster

Accounting Major

The basic objectives of the accounting program are twofold: to provide students who do not intend to major in accounting with the basis for understanding the role accounting plays in business today and to provide those students who desire to major in accounting with the educational background necessary for lifelong learning and a rewarding career in the accounting profession. The curriculum offered by the

department attempts to blend the conceptual with the practical. Exposure to the underlying conceptual framework of accounting provides a basis for dealing with emerging accounting and tax issues, while examination of technical pronouncements enables students to gain insight into practical issues encountered in an accounting environment.

Accounting majors may enter the professional world of accounting from a variety of directions. Choices available in the form of elective courses enable students to chart a course that leads them toward public accounting, private accounting, governmental or not-for-profit accounting, as well as other specialties that rely on a strong accounting background. Those students seeking professional certification, such as the CPA, CMA or CIA, are able to satisfy requirements to sit for these professional examinations by completing the undergraduate accounting degree.

All accounting majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All accounting courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the College of Business Peter M. and Paula Green Johnson Student Success Center in the College of Business Building.

Please Note:

Students who anticipate taking the CPA examination should be aware of the Wyoming statute governing eligibility to sit for the exam. Please see the state board's web site for information: cpaboard.state.wy.us. The current combined curricula (B.S. and M.S.) enable students to satisfy the educational requirements for a CPA licence in Wyoming and other jurisdictions.

Graduate Study

Accounting is an integral part of the College of Business degree programs. The department offers courses in support of college graduate degree programs, as well as a master of science in accounting (MS in Accounting) degree. The MS in Accounting degree was developed in response to emerging needs of the accounting profession. Those students who wish to become professional accountants, whether that be in a corporate setting, a not-for-profit setting, or public accounting, will find the MS in Accounting enables them to develop both the personal and professional skills needed to enjoy a productive career.

The MS in Accounting program, in addition to an undergraduate degree in accounting from the University of

Wyoming, will satisfy the education requirements for the CPA license in Wyoming. The curriculum focuses on the two main areas of development: 1) advanced accounting and business education, and 2) professional skills development-including written, oral, interpersonal communciation, computer applications, critical thinking and adaptability.

The MS in Accounting degree is designed for students who have completed an undergraduate degree in accounting in the United States. However, it is possible to be admitted to the program once deficiency courses are successfully completed. Those holding a bachelor's degree from within the U.S., but not in accounting, and international applicants can still apply for admission once the deficiency courses are successfully completed. We do not provisionally or conditionally admit students to our program.

Program Specific Admission Requirements

Admission to the Master of Science in Accounting program generally requires:

• Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.

• Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U. S. Department of Education site.

• A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.

• GRE or GMAT optional. A strong GRE or GMAT score may be considered to offset deficiencies in other areas of your application (such as a GPA below 3.0, limited work experience, etc.).

• Official transcripts of all undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Office of Admissions at 1000 E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the department Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.

• Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member,

program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.

a• Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

NOTE: These are the minimum requirements and do not guarantee admisson or funding. The University of Wyoming MS in Accounting program does not provisionally or conditionally admit students.

*Please refer to the AICPA Site (www.aicpa.org) to check on the requirements you will need to fulfill in your state if you plan to sit for the CPA Exam.

Additional requirements for International Applicants:

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 540 on the paper-based test (TOEFL PBT) or a score of 76 on the internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 6.5. Waivers for the English Language proficiency requirement may be granted according to the UW policy found on the admnissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html.

Additionally, to be admitted to the Master of Science in Accounting program, a student demonstrate competency in the following subject matters/courses:

- ACCT 3230 Intermediate I & ACCT 3430 Intermediate II (External Financial Reporting)

- ACCT 3240 Cost I (Advanced Managerial Accounting)

- ACCT 3070 Tax I (Tax Accounting, must cover US income taxation for individuals)

- ACCT 4060 Audit I (must cover US Generally Accepted Auditing Standards and/or International Standards on Auditing)

*These courses may be completed through any regionally accredited university or college. A minimum grade of B (a 3.0 on a 4.0 scale) is considered evidence of proficiency.

*Evidence of proficiency in these areas can also be demonstrated by relevant professional experience on a case-by-case basis. Please contact the program office for additional information.

Each candidate who applies to the University of Wyoming Master of Science in Accounting program is evaluated individually by our faculty and program directors. We consider each part of the application in a holistic assessment, including the candidate's reasons for pursuing the degree, interview responses, prior academic performance, work experience, and letters of recommendation.

Students are admitted on a rolling basis with applications evaluated as soon as they are completed. It typically takes no more than two weeks to receive an admission decision.

Application Deadlines

Fall Admission

- Block 1 Final Deadline: July 1
- Block 2 Final Deadline: September 15

Spring Admission

- Block 1 Final Deadline: December 1
- Block 2 Final Deadline: September 15

Summer Admission

- Final Deadline: April 1

International applicants: Please be advised that there are additional university requirements that may take additional processing time - you are encouraged to apply prior to the application deadline if possible to ensure that if admitted, all required documentation can be provided prior to the term of entry.

Program Specific Degree Requirements

Master of Science in Accounting

The objectives of the master of science in accounting degree program are:

- To provide students with an advanced understanding of the field and sub-topics within accounting,
- To provide students with professional skills that will enable them to enjoy productive and rewarding careers in accounting and other accounting-related areas.

The program consists of a minimum of 30 semester hours of graduate coursework. Students must complete coursework in accounting and elective business and/or non-business areas. Eighty percent of the student's total coursework must consist of 5000-level courses; the remaining 20 percent may be 4000-level non-accounting courses (approximately six hours). Non-accounting courses should be selected in

consultation with the student's graduate adviser. Non-accounting courses at the 4000-level may be taken during the senior year of undergraduate study and applied to the master's program, but they must be reserved for graduate credit and approved by the graduate program director, prior to the first day of such classes.

Students must take these 4 core accounting courses (minimum 12 credit hours):

ACCT 5030. Advanced Financial Accounting

ACCT 5040. Seminar in Managerial Accounting

ACCT 5060. Auditing II

ACCT 5070. Tax II

Any accounting course at the 5000+ level that has not been used to meet any other primary major requirement.

A maximum of six hours may come from 4000- level courses offered in the College of Business or in other colleges at the University of Wyoming.

NOTE: ACCT 4010, 4020, 4050, 4060, 4100, 4900, and 5000 are not applicable for M.S. accounting students' programs of study.

The student must complete the required coursework (both graduate and prerequisite) with a minimum GPA of 3.000 (on a 4.000 scale).

Any student falling below a cumulative GPA of 3.000 is automatically placed on probation for the following semester and must raise their GPA to 3.000 to avoid dismissal.

Students must maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Finance Major

Modern business is characterized by its emphasis upon finance. The application of sound financial management principles often will be the difference between success and failure in business.

Courses prescribed for those who wish to major in finance are designed to provide a background for financial management of business concerns and, if students desire, to specialize in bank management, corporation finances and investment management. Since financial policies of business enterprises are subject to economic principles which make all

businesses financially interdependent and sensitive to disturbances in the economic structure, students in this field should study the economic, as well as the technical, administrative aspects of finance and accounting.

All finance majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All finance courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the Academic Advising unit of the GJSSC of the College of Business Building.

Major

Accounting, B.S.B.

The Accounting major prepares students for a career within the profession by providing them with the skills to create, interpret and analyze economic and financial information while focusing on assurance, financial and tax services.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge - Credits: 33

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Major Specific Courses

Accounting Core

- ACCT 3070 - Tax I Credits: 3

- ACCT 3230 - Intermediate Accounting I Credits: 3
- ACCT 3240 - Cost Accounting I Credits: 3
- ACCT 3430 - Intermediate Accounting II Credits: 4
- ACCT 3610 - Accounting Information Systems Credits: 3
- ACCT 3900 - Accounting Professional Skills Credits: 2
- ACCT 4060 - Auditing I Credits: 3

Accounting Elective: 3 Credits

Any accounting course at a 3000+ level that has not been used to meet any other primary major requirement.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirements.

Upper-Division Business Electives: 6 Credits

Any business courses at a 3000+ level that have not been used to meet any other primary major requirements.

Please Note:

All accounting courses for the major require a minimum grade of C. In addition to university and college requirements cited previously, requirements for accounting majors are listed above.

Students who anticipate preparing themselves for the CPA examination following completion of their degree should be aware of the Wyoming statute governing eligibility to sit for the exam. Please see the state board's web site for information: cpaboard.state.wy.us. The current curricula enables students to satisfy the educational requirements to sit for the CPA exam in Wyoming and some other jurisdictions.

Finance, B.S.B.

The Finance major provides the principal concepts for students to understand financial management of business concerns and, if students desire, to specialize in bank

management, corporation finances or investment management.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3

- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Finance Core: 15 Credits

- ACCT 3100 - Financial Statement Analysis Credits: 3
- FIN 3000 - Intermediate Corporate Finance Credits: 3
- FIN 3310 - Investment Management Credits: 3
- FIN 4400 - Financial Modeling Credits: 3

  And choose one of the following two courses:
- ECON 3010 - Intermediate Macroeconomics Credits: 3

  OR
- ECON 3020 - Intermediate Microeconomics Credits: 3

Finance Major Electives - Credits: 9

Choose 9 credits from the following options that have not been used to meet any other primary major requirement.

- FIN 3520 - Financial Markets Credits: 3
- FIN 4340 - Portfolio Management I Credits: 3
- FIN 4350 - Portfolio Management II Credits: 3
- FIN 4460 - Multinational Finance Credits: 3
- FIN 4710 - Risk Management Credits: 3
- FIN 4800 - Real Estate Finance Credits: 3

- FIN 4810 - Real Estate Investment Credits: 3
- ACCT 3240 - Cost Accounting I Credits: 3
- ECON 4115 - Time Series Analysis Credits: 3
- ECON 4450 - Monetary Theory Credits: 3
- ECON 4530 - Computational Economics Credits: 3
- ECON 4740 - International Economics and Policy Credits: 3

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Minor

Banking and Financial Services Minor

The Banking and Financial Services minor introduces the student to the field and provides them with a greater understanding of how the banking system functions to provide service and value to the economy.

Finance Requirement

- FIN 4510 - Bank Management Credits: 3
- FIN 4540 - Banking Policy Credits: 3
- FIN 4530 - Fixed Income Securities Credits: 3

Advanced Business Electives

- Any Business Course (3000-level or higher) Credits: 3
- Any Business Course (3000-level or higher) Credits: 3

Minor Total Credits: 15

Blockchain Minor

The Blockchain minor lays the foundation for gaining a competitive advantage in the blockchain ecosystem by providing an understanding of the implications and business opportunities associated with blockchain and digital assets and how they affect global industries.

Blockchain Core - Credits: 6

- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- BKCH 4021 - Business Applications of Blockchain Credits: 3

Blockchain Electives - Credits: 9

- BKCH 4121 - Case Studies in Block Chain Credits: 3
- BKCH 4910 - Topics in Blockchain Credits: 1-6
- DSCI 4260 - Project Management Credits: 3
- FIN 4221 - Blockchain & Digital Financial Services Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 4395 - Supply Chain Management (Capstone) Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 4010 - Special Topics in Computer Science Credits: 1-3
- ES 4920 - Entrepreneurship for Engineers Credits: 3

Total for Minor: 15 Credits

Real Estate Minor

The Real Estate minor enables students to gain broad understanding of this important market and as a result compete for jobs in many real estate related careers such as real estate management, investment, development, brokerage, appraisal and more.

Real Estate Core - Credits: 6

- FIN 4800 - Real Estate Finance Credits: 3
- FIN 4810 - Real Estate Investment Credits: 3

Real Estate Electives - Credits: 9

Complete a minimum of 9 credits of electives (three courses) from the list below.

- ACCT 3100 - Financial Statement Analysis Credits: 3
- FIN 3100 - Real Estate Development Credits: 3
- FIN 3310 - Investment Management Credits: 3
- FIN 3520 - Financial Markets Credits: 3
- FIN 4510 - Bank Management Credits: 3
- FIN 4540 - Banking Policy Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- ERS 4100 - Property I Credits: 3

- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3

Minor Total Credits: 15

Graduate

Accounting, M.S.

Students who wish to become professional accountants will find the online MS in Accounting degree to be one that enables them to develop both the personal and professional skills needed to enjoy a productive career.

Additional Requirements

The objectives of the master of science in accounting are:

- To provide students with an advanced understanding of the field and sub-topics of accounting,
- To provide students with professional skills that will enable them to enjoy productive and rewarding careers in accounting and accounting-related areas.

The program consists of a minimum of 30 semester credit hours of graduate coursework. Students must complete coursework in accounting and elective business and/or non-business courses as approved by program leadership. Eighty percent of the student's total coursework must consist of 5000-level courses; the remaining 20 percent may be 4000-level accounting or non-accounting courses (approximately six total credit hours). Non-accounting courses should be selected in consultation with the student's graduate adviser. Non-accounting courses at the 4000-level may be taken during the senior year of undergraduate study and applied to the master's program, but they must be reserved for graduate credit and approved by the graduate program director prior to the first day of such classes. Courses reserved for graduate credit may not be counted towards the undergraduate degree requirements. Approved reservation of courses for graduate credit does not guarantee admission to the graduate program.

Core Accounting Courses

Students must take these 4 core accounting courses (minimum 12 credit hours):

- ACCT 5030 - Advanced Financial Accounting Credits: 3
- ACCT 5040 - Seminar in Managerial Accounting Credits: 3
- ACCT 5060 - Auditing II Credits: 3
- ACCT 5070 - Tax II Credits: 3

Note(s):

NOTE: ACCT 4060, ACCT 4900, ACCT 5000, and ACCT 5940 are not applicable to M.S. accounting students' programs of study.

The student must complete the required coursework with a minimum GPA of 3.000 on a 4.000 scale.

Any student falling below a cumulative GPA of 3.000 is automatically placed on probation for the following semester and must raise their GPA to 3.000 to avoid suspension. If a 3.000 GPA is not attained in the subsequent semester, the student will be suspended from the MS Accounting program and the University of Wyoming.

Students must maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Required Accounting Elective

Any accounting course at the 5000+ level that has not been used to meet any other primary major requirement.

Certificate

Certified Financial Planning Certificate (Graduate)

The certificate is composed of 18-credits of masters-level graduate coursework with the primary goal of providing students with the education, training, and skills necessary to be able to sit for the Certified Financial Planner (CFP) examination.

Additional Requirements

The curriculum is aligned with the CFP® Board's Principal Knowledge Topics and covers principles and practices of essential areas of financial planning, including:

- Wealth Management
- Investment Management
- Tax Planning
- Estate Planning
- Insurance and Retirement Planning

CFP Certificate Requirements

- FIN 5070 - Tax Planning for Financial Planners Credits: 3
- FIN 5310 - Advanced Investment Analysis Credits: 3
- FIN 5720 - Insurance and Retirement Planning Credits: 3
- FIN 5750 - Fundamentals of Financial Planning Credits: 3
- FIN 5780 - Estate Planning Credits: 3
- FIN 5800 - CFP Capstone Credits: 3
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Department of Economics

260W Business Building
Web site: www.uwyo.edu/economics
Department Chairman: Alexandre Skiba

John S. Bugas Chair in Economics:

TODD CHERRY, B.S.B.A. Appalachian State University 1992; M.A. University of North Carolina Greensboro 1995; Ph.D. University of Wyoming, 1999. Professor of Economics, Graduate Director, 2020.

H.A. (Dave) True, Jr. Chair in Petroleum and Natural Gas Economics:

CHARLES F. MASON, A.B. University of California 1977; Ph.D. 1983; Professor of Economics 1994, 1982.

Stroock Chair of Natural Resource and Environmental Economics:

JASON F. SHOGREN, B.A. University of Minnesota-Duluth 1980; Ph.D. University of Wyoming 1986; Professor of Economics 1995.

Wyoming Excellence Chair in Conservation Economics:

H. JO ALBERS, B.S. Duke University 1985; M.E.S. Yale University 1987; Ph.D. University of California at Berkeley 1993; Professor of Economics 2014.

Wyoming Excellence Chair in Economics and McMurry Fellow:

DAVID C. FINNOFF, B.S. University of Wyoming 1994; Ph.D. 2001; Professor of Economics 2018, 2004.

Professors:

DAVID M. AADLAND, B.A. Augustana College 1991; M.S. University of Oregon 1996; Ph.D. 1997; Department Chairman, 2018; Associate Professor of Economics 2005, 2003.

TIMOTHY J. CONSIDINE, B.A. Loyola University 1975; M.S. Purdue University 1977; Ph.D. Cornell University 1981; Professor of Economics 2008.

Associate Professors:

ROBERT GODBY, B.S. Trent University 1990; M.A. University of Guelph 1992; Ph.D. McMaster University 1997; Center for Energy Economics and Public Policy Director, and Associate Professor of Economics 2003, 1997.

ALEXANDER JAMES, B.A California State University Chico, 2006; Ph.D. University of Wyoming, 2012; Associate Professor of Economics 2023.

THORSTEN M. JANUS, B.A. University of Copenhagen 2000; M.A. University of California at Santa Cruz 2003; Ph.D. 2006; Associate Professor of Economics 2012.

STEPHEN NEWBOLD, B.S. University of California, Davis 1995; M.S. 2002; Ph.D. 2002; Associate Professor of Economics 2018.

ALEXANDRE SKIBA, Specialist Diploma Rivne State Technical University 1999; M.S. Purdue University 2001; Ph.D. 2003; Associate Professor of Economics 2019, 2012.

LINDA THUNSTROM, M.S. Umea University, Sweden 1999; Ph.D. Umea University Sweden 2008; Associate Professor of Economics 2013.

KLAAS T. VAN 'T VELD, B.Sc. University of London 1992; M.S. University of California Berkeley 1993; Ph.D. 1997; Associate Professor of Economics 2010, 2004.

Assistant Professors:

NINO ABSHIDZE, B.A. Tbilisi State University 2011; M.A. International School of Economics 2013; M.A. North Carolina State University 2017; Ph.D. North Carolina State University 2019; Assistant Professor of Economics 2023.

Academic Professionals:

TYLER KJORSTAD, B.A. College of St. Scholastica 2009; M.S. University of Minnesota-Duluth 2012; M.S. University of Wyoming 2014, Director of Undergraduate Studies in Economics.

Professors Emeriti:

Thomas D. Crocker, Owen R. Phillips, Sherrill Shaffer

Economics Undergraduate Major

The science of efficient allocation, economics has much to offer students in the way of general and specialized preparation for positions in business, as well as government and the academic profession.

This program allows considerable flexibility for the student to specialize in interdisciplinary study. For example, the student can be advised on selecting upper level division courses for pre-law study, political economy, environmental and natural resources, women's studies, and international studies.

Students who intend to continue in graduate work should give special attention to courses in economic theory, statistics and mathematics. Those planning a career in mathematical economics or econometrics should consult the department head regarding the mathematics and statistics requirements in these fields of study.

Business Economics Major

All Business Economics majors must comply with requirements of the advanced business standing prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed.

This program allows students to explore a plethora of courses in the College of Business, giving them a diverse exposure to courses in accounting, finance, economics, marketing, management, and decision science. This allows an expanded view in other fields within the College of Business while focusing on economics.

These programs are designed to meet the requirements of AACSB International (the Association to Advance Collegiate Schools of Business), the University of Wyoming, and the College of Business.

50% of the business credit hours must be from the University of Wyoming.

A complete curriculum guide is available from the Peter M. & Paula Green Johnson Student Success Center in the College of Business.

Minimum requirements for Economics and Business Economics majors include:

Must hold a 2.500 cumulative grade point average in all economics courses at graduation, as well as a minimum 2.500 cumulative UW grade point average and a minimum 2.500 grade point average in all College of Business courses.

Minimum of 42 semester hours of 3000+ level courses. 30 of the 42 hours must be earned from UW.

Grade of C or above required for University Studies Program: FY, Cl, C2, and C3.

Grade of C or above required for common body of knowledge and major specific core courses.

A maximum of 6 hours at the 1/2000 level and 3/4000 level military science may be applied to degrees in the College of Business.

With approval of the department chair, students may substitute work in certain areas of accounting, agricultural economics, business administration, history, political science, finance, mathematics, statistics or law for 6 hours of 4000-level economics courses.

Graduate Study

The Department of Economics offers programs leading to a master of science degree in economics and the doctor of philosophy degree in economics.

Program Specific Admission Requirements

Economics Program

Admission to the economics graduate programs is granted to students who show high promise of success. Candidates of high promise generally have a cumulative grade point average of 3.000 or better (A=4.000) and score above 300 (for MS) and 310 (for PhD) combined on the verbal and quantitative sections of the GRE, with particular emphasis on strong quantitative and analytical scores. Such scores and grades do not guarantee admission.

The TOEFL is required for international students in accordance with University rules.

The Department of Economics requires that students have completed courses in intermediate micro and macro theory (ECON 3010, ECON 3020 or equivalent), statistics, and 6 hours of introductory calculus (MATH 2200, MATH 2205 or equivalent) for the MS program. A course in linear algebra (MATH 2050) is required for the PhD program.

Program Specific Degree Requirements

Master of Science in Economics

A minimum of 18 hours in economics is required; at least 15 of these must be at the 5000 level. A basic core sequence of ECON 5010 (macro), 5390 (math micro), 5530 (computational), 5230 (econometrics), and 5300 (game theory) is required, which completes 15 hours of 5000-level courses, which is required.

The student must complete 26 hours of coursework and 4 hours of ECON 5960 Thesis Research for the Plan A option. The student must complete 30 hours of coursework and a project for the Plan B option.

Students may take 4000-level courses for graduate credit up to 6 hours.

A maximum of 6 semester hours of graduate coursework not used toward any other degree from another institution may be applied to the M.S. economics program subject to regulations regarding transfer of credit listed in this bulletin and with the approval of the director of graduate studies.

At the beginning of the third semester, the student selects a major professor who directs the Plan A thesis or Plan B project. A graduate committee, nominated by the major professor, the student, and the department chair, conducts an oral examination of the student on the project or thesis and area he/she has studied in the program. A favorable report by the committee and approval by the Office of the Registrar complete the degree requirements.

The majority of students complete the M.S. degree within two years.

QuickStart Master of Science in Economics

UW undergraduates can complete the M.S. degree in just one year after completing their B.S. degree if they apply to the QuickStart M.S. program in their junior year. To be eligible, students must have (and maintain) a cumulative GPA of 3.200 or better as well as an Economics GPA of 3.200 or better. They are also required to take the GRE by the fall of their senior year and score above 300 combined on the verbal and quantitative sections combined. The GRE requirement can be waived by the Graduate Director or Director of Undergraduate Stuides. Two letters of reommendation from UW economics faculty members are also required. Admission to the QuickStart program allows students to double-count 6 credits of courses taken as an undergraduate towards both the B.S. and M.S. degrees, and reserve an

additional 6 credits of courses taken as an undergraduate towards the M.S. degree alone. This then leaves only 18 credits to be taken after completion of the B.S. degree, which is feasible in just one year.

Doctoral Program

Doctor of Philosophy in Economics

The doctor of philosophy degree in the field of economics at the University of Wyoming requires a minimum of 42 hours of coursework. All coursework must be at the graduate (5000) level.

The program is designed to give the student a strong foundation in economic theory and the basic quantitative tools necessary for professional research. If students receive a grade lower than an **A** during their first year, they must take a comprehensive exam in that field (microeconomics and/or econometrics) during the summer to continue to the second year of the PhD program. Students who do not pass the comprehensive exam are dismissed from the program. They may continue to pursue an MS degree at the discretion of the Program Director and Department Chair. The program's qualifying exam takes the form of a research paper written during the second summer and defended to, and approved by, a faculty committee by early in the third year, with revisions and resubmission required by December. Students who pass the qualifying paper requirement receive an MS degree and move on in the PhD program, while students who fail this requirement are dismissed from both the MS and PhD programs.

During the third year, or no later than the first few weeks of the fourth year, a graduate committee nominated by the student's major professor and the director of graduate studies conducts an oral examination of the student. The purpose of the oral examination is to determine whether the student has formulated a workable dissertation project and has the necessary skills to complete it.

Following successful completion of the dissertation, and completion of a departmental requirement of 30 hours of dissertation research, the student presents an oral defense to the graduate committee. The doctor of philosophy degree is granted on recommendation of the committee and approval by the Office of the Registrar, providing all other requirements have been satisfactorily fulfilled.

Major

Business Economics, B.S.B.

Business Economics is a subfield of economics, with a focus on the application of economic principles and quantitative analysis to business-related decision making. It is a discipline that uses economics and data analytics to enhance business management, providing tools and techniques to help businesses and organizations make informed choices and optimize their operations. The program equips students with skills and tools that are critical to decision making, market analysis, resource allocation, strategic planning, cost-benefit analysis, risk management, and policy/program evaluation to name a few.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Economics Core

- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- ECON 4240 - Evolution of Economic Ideas Credits: 3

Economics Electives: 6 Credits

Any Economics Courses at a 4000+ level that have not been used to meet any other primary major requirements.

Advanced Business Electives: 6 Credits

Any business courses at a 3000+ level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

A complete curriculum sheet is available from the Academic Advising unit of the GJSSC in the College of Business Building.

Business Economics majors must hold a 2.500 cumulative grade point average in all economics courses at graduation, as well as a minimum 2.500 cumulative UW grade point average and a minimum 2.500 grade point average in all College of Business courses.

With approval of the department chair or director of undergraduate studies, students may substitute work in certain areas of accounting, agricultural economics, business administration, history, political science, finance, mathematics, statistics, or law for 6 hours of 4000-level economics courses.

Students who intend to continue to graduate work are urged to give special attention to courses in economics theory, statistics and mathematics. Those planning a career in econometrics or mathematical economics should consult the department head as to mathematics and statistics requirements in these fields of study.

All economics courses for the major need a minimum grade of C (not C-).

Economics, B.S.E.

Economics is the science of decision making. It is a social science that primarily focuses on the study of how individuals, businesses, and governments make decisions to allocate scarce resources to best meet their needs and wants. It explores how these decisions impact the production, distribution, and consumption of goods and services, as well as the overall well-being of society. While it is referred to as a social science it is actually considered a STEM major. Economics students gain valuable tools and skills to understanding the insight in decision making, using resources effectively, value created through trade, policy analytics, data analytics, understanding market behavior, resource allocation, global perspective and critical thinking, just to name a few.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Economics Core

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- ECON 4240 - Evolution of Economic Ideas Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Choose 1 area of focus and its accompanying elective requirement.

General Economics Focus

Economics Core + 15 Economic Elective credits.

Economics Electives: 15 Credits

Any Economics courses at a 4000+ level that have not been used to meet any other primary major requirement.

Quantitative Analytics Economics Focus

- ECON 4230 - Intermediate Econometric Theory Credits: 3
- ECON 4530 - Computational Economics Credits: 3

Students must take one of the following courses:

- ECON 4115 - Time Series Analysis Credits: 3
- ECON 4730 - Advanced Regional Analysis Credits: 3
- STAT 4015 - Regression Analysis Credits: 3

OR

- STAT 4025 - Design and Analysis of Experiments I Credits: 3

Economics Electives: 6 Credits

Any Economics courses at a 4000+ level that have not been used to meet any other primary major requirements.

Environment and Natural Resource Economics Focus

Choose 3 of the following courses:

- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3

- ECON 4430 - Energy Economics Credits: 3
- ECON 4460 - Resource Rich Economies Credits: 3

Economics Electives: 6 Credits

Any Economics courses at a 4000+ level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Minor

Data Analytics Minor

The Data Analytics minor is designed to provide the student with the skills necessary to gather, process and interpret the large amounts of data available in today's fast paced business environment.

Required Core

- IMGT 4500 - Data & Business Analytics Credits: 3

  Choose 6 credits from the following Data Analytics Electives:
- ECON 4115 - Time Series Analysis Credits: 3
- ECON 4230 - Intermediate Econometric Theory Credits: 3
- ECON 4530 - Computational Economics Credits: 3
- ECON 4730 - Advanced Regional Analysis Credits: 3

Advanced Business Electives

- Any Business Course (3000-level or higher) Credits: 3
- Any Business Course (3000-level or higher) Credits: 3

Minor Total Credits: 15

Economics Minor

Economics is the science of decision making. It is a social science that primarily focuses on the study of how individuals, businesses, and governments make decisions to allocate scarce resources to best meet their needs and wants.

It explores how these decisions impact the production, distribution, and consumption of goods and services, as well as the overall well-being of society. This minor is a great complement to any degree. Economics students gain valuable tools and skills to understanding the insight in decision making, using resources effectively, value created through trade, policy analytics, data analytics, understanding market behavior, resource allocation, global perspective and critical thinking, just to name a few.

Economics Requirement

- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Advanced Economics Electives

- Any ECON Course Credits: 3 (excl. ECON 3010, ECON 3020)
- Any ECON Course (4000-level) Credits: 6

Minor Total Credits: 15

Graduate

Economics, M.S.

Economics is the science of decision making and how to create value through trade. An economics degree will provide you with the tools to work on challenging policy issues and employ data analytics to address those issues.

Requirements - Total Credits: 30

Required Economics Courses - Credits: 15

- ECON 5010 - Advanced Macroeconomic Analysis Credits: 3
- ECON 5230 - Intermediate Econometric Theory Credits: 3
- ECON 5300 - Game Theory Credits: 3
- ECON 5390 - Math Microeconomics Credits: 3
- ECON 5530 - Computational Economics Credits: 3

Graduate Elective Courses

Plan A - 12 hours of Graduate electives required plus 4 credits of Thesis Research credit

Plan B - 15 hours of Graduate electives.

A maximum of 6 hours can be taken at the 4000 level.

Additional Requirements

Program Specific Degree Requirements

A minimum of 18 hours in economics is required; at least 15 of these must be at the 5000 level. A basic core sequence of ECON 5010 (macro), ECON 5390 (math micro), ECON 5530 (computational), ECON 5230 (econometrics), and ECON 5300 (game theory) is required, which completes 15 hours of 5000-level courses, which is required.

The student must complete 26 hours of coursework and 4 hours of ECON5960 - Thesis Research for the Plan A option. The student must complete 30 hours of coursework and a project for the Plan B option.

Students may take 4000-level courses for graduate credit up to 6 hours.

A maximum of 6 semester hours of graduate coursework not used toward any other degree from another institution may be applied to the M.S. economics program subject to regulations regarding transfer of credit listed in this bulletin and with the approval of the director of graduate studies.

At the beginning of the third semester, the student selects a major professor who directs the Plan A thesis or Plan B project. A graduate committee, nominated by the major professor, the student, and the department chair, conducts an oral examination of the student on the project or thesis and area he/she has studied in the program. A favorable report by the committee and approval by the Office of the Registrar complete the degree requirements.

The majority of students complete the M.S. degree within two years.

QuickStart Master of Science in Economics

UW undergraduates can complete the M.S. degree in just one year after completing their B.S. degree if they apply to the QuickStart M.S. program in their junior year. To be eligible, students must have (and maintain) a cumulative GPA of 3.200 or better as well as an Economics GPA of 3.200 or better. They are also required to take the GRE by the fall of

their senior year and score above 300 combined on the verbal and quantitative sections combined. The GRE requirement can be waived with letters of reommendation from two UW faculty members. Admission to the QuickStart program allows students to double-count 6 credits of courses taken as an undergraduate towards both the B.S. and M.S. degrees, and reserve an additional 6 credits of courses taken as an undergraduate towards the M.S. degree alone. This then leaves only 18 credits to be taken after completion of the B.S. degree, which is feasible in just one year.

Economics, Ph.D.

Economics is the science of decision making and how to create value through trade. An economics degree will provide you with the tools to work on challenging policy issues and employ data analytics to address those issues.

Requirements - Total Credit Hours: 72

Required Economics Courses - Credits: 30

- ECON 5010 - Advanced Macroeconomic Analysis Credits: 3
- ECON 5020 - Advanced Microeconomic Analysis Credits: 3
- ECON 5120 - Advanced Analysis II-Microeconomics Credits: 3
- ECON 5130 - Dynamic Optimization Credits: 3
- ECON 5310 - Research Methods Credits: 3
- ECON 5330 - Advanced Mathematical Economics Credits: 3
- ECON 5350 - Advanced Econometrics Theory I Credits: 3
- ECON 5360 - Advanced Econometrics Theory II Credits: 3
- ECON 5400 - Advanced Resource and Environmental Economics Credits: 3
- ECON 5410 - Seminar in Advanced Resource and Environmental Economics Credits: 1-3

Graduate Elective Courses - Credits: 12

Dissertation Research - Credits: 30

Additional Requirements

The doctor of philosophy degree in the field of economics at the University of Wyoming requires a minimum of 42 hours of coursework. All coursework must be at the graduate (5000) level.

The program is designed to give the student a strong foundation in economic theory and the basic quantitative tools necessary for professional research. If students receive a grade lower than an A during their first year, they must take a comprehensive exam in that field (microeconomics and/or econometrics) during the summer to continue to the second year of the PhD program. Students who do not pass the comprehensive exam are dismissed from the program. They may continue to pursue an MS degree at the discretion of the Program Director and Department Chair. The program's qualifying exam takes the form of a research paper written during the second summer and defended to, and approved by, a faculty committee by December. Students who pass the qualifying paper requirement receive an MS degree and move on in the PhD program, while students who fail this requirement are dismissed from both the MS and PhD programs.

During the third year, or no later than the first few weeks of the fourth year, a graduate committee nominated by the student's major professor and the director of graduate studies conducts an oral examination of the student. The purpose of the oral examination is to determine whether the student has formulated a workable dissertation project and has the necessary skills to complete it.

Following successful completion of the dissertation, and completion of a departmental requirement of 30 hours of dissertation research, the student presents an oral defense to the graduate committee. The doctor of philosophy degree is granted on recommendation of the committee and approval by the Office of the Registrar, providing all other requirements have been satisfactorily fulfilled.

Department of Management and Marketing

College of Business 354, (307) 766-3124
FAX: (307) 766-3488
Web site: business.uwyo.edu/mgtmkt
Department Chairman: Chase Thiel

Professors:

JEFF COVIN, B.S University of Pittsburgh 1979; MBA Indiana University of Pennsylvania 1981; Ph.D. University of Pittsburgh 1985, Professor of Entrepreneurship 2023.

PATRICK M. KREISER, B.A. John Carroll University 1997; M.B.A. University of Alabama 1999; Ph.D. 2004; Professor of Management and Rile Chair of Entrepreneurship and Leadership 2021, 2018.

MARK LEACH, B.S. University of Arizona 1991; Ph.D. Georgia State University 1998; Professor of Marketing 2016.

C. MARK PETERSON, B.A. University of Virginia 1978; M.S. Georgia Institute of Technology 1989; Ph.D. 1994; Professor of Marketing 2014, 2007.

LINDA PRICE, B.A. University of Wyoming; M.B.A. University of Wyoming; Ph.D. University of Texas Austin; Professor of Marketing 2020.

RONN J. SMITH, B.S. Montana State University 1999; M.A. Montana State University 2000; Ph.D. Washington State University 2004; Associate Professor of Marketing 2020.

ROBERT D. SPRAGUE, B.S.B.A. University of Denver 1980; J.D. 1985; M.B.A. University of Southern California 1999; Professor of Legal Studies in Business 2016, 2004.

CHASE THIEL, B.S. Idaho State University 2009; M.S. University of Oklahoma 2009; Ph.D. 2012; Professor of Management 2024, 2016.

Associate Professors:

GRANT L. LINDSTROM, B.S. Utah State University 1981; M.B.A. University of Utah 1986; Ph.D. 1989; Associate Professor of Management 1996, 1990.

ELIZABETH A. MINTON, B.S. University of Alaska Southeast 2008; M.B.A. Idaho State University 2010; Ph.D. University of Oregon 2014; Associate Professor of Marketing 2018, 2014.

STEPHANIE A. ONETO, B.S. University of Nebraska-Lincoln 1999; M.A. University of Houston 2001; Ph.D. 2007; Associate Professor of Marketing 2014, 2007.

NICHOLAS PRINCE, B.S. Kansas State University 2004; M.B.A. Brigham Young University 2009; Ph.D. University

of Illinois Urbana-Champaign 2015; Associate Professor of Management 2024, 2016.

Assistant Professors:

RYAN BAILEY, B.B.A. University of Tulsa 2010; M.B.A. University of Tulsa 2019; Ph.D. University of Oklahomoa 2023; Assistant Professor of Entrepreneurship 2023.

CAMERON BORGHOLTHAUS, B.S. Idaho State University 2012; Ph.D. University of Nebraska-Lincoln 2021; Assistant Professor of Management 2024.

MOLLY R. BURCHETT, B.A. Transylvania University 2009; M.A. University of Kentucky 2014; Ph.D. University of Kentucky 2020.

ABHAY GROVER, B.S. Punjab Agricultural University 2012; M.S. Iowa State University 2017; Ph.D. University of Maryland 2024; Assistant Professor of Supply Chain Management 2024.

JACOB HOLWERDA, B.A. Cornell University 2006; M.S. Cornell University 2009; Ph.D. Cornell University 2014; Assistant Professor of Management 2020.

SAMUEL H. MATTHEWS, B.S. Brigham Young University 2013; M.S. Brighamm Young University 2013; Ph.D. University of Oklahoma 2013; Assistant Professor of Management 2023.

NICOLINA TAYLOR, B.B.A Texas State University 2017; M.S. Southern Methodist University 2018; Ph.D. University of Texas, Arlington 2022; Assistant Professor of Management 2024.

Academic Professionals:

COREY A. BILLINGTON, B.S. Stanford University 1981; M.S. 1981; Ph.D. 1987; Professor of Practice 2015.

CASEY FROME, B.S. University of Wyoming 2009; M.P.A. 2014; J.D. 2014; Assistant Lecturer 2018.

MARIA JENKS, B.S. Miami University 1986; M.B.A. Rockhurst University 2017; Assistant Lecturer 2023.

ERIC J. KRSZJZANIEK, B.A. University of Wisconsin-Stevens Point 2005; M.A. University of Wyoming 2014; Ph.D. 2018; Assistant Lecturer 2018.

GREG C. LIVINGSTON, B.A. University of Wyoming 1996; M.A. 2018; Assistant Lecturer 2018.

Professors Emeriti:

Robert E. Allen, John H. Jackson, Anthony F. McGann, Richard C. McGinity, J. Brooks Mitchell, Terri L. Rittenburg, Robert G. Roe, Philip E. Varca, Larry R. Weatherford

The Department of Management and Marketing offers programs of study leading to the Bachelor of Science in Business degrees in (1) Management, (2) Marketing, (3) Entrepreneurship, and (4) Professional Sales. The departmental requirements for each of these degree programs are listed in the program sections below.

College of Business 3000- and 4000 level courses are reserved for those with junior or senior level standing whether majors or non-majors unless otherwise noted.

Decision Sciences

The decision sciences courses are a supplement for students with a variety of majors. The curriculum proides analytic skills based in both numerical data and behavioral evidence to facilitate problem solving, planning/project management, and decision making within organizations and across supply chains.

Entrepreneurship

The Entrepreneurship major is designed to assist students who wish to start their own businesses by providing them with exposure to the development and testing of business concepts. Analyzing the potential success of their concepts using a variety of tools and techniques, being flexible in developing new businesses and innovative ideas, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures. The major provides students with exposure to issues involving family firms such as governance, succession and interpersonal relationships as well as innovation and change in existing organizations. Thus, the major focuses on entrepreneurship in both new ventures and established firms and prepares students to 1) start new businesses, 2) innovate in their own family firms, and/or 3) be entrepreneurial in an existing business.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Management

The Management major focuses on using resources to achieve goals in organizations. It studies the activities and operations that bring together human, financial, material, and information resources. Management majors should graduate with an understanding of the business world and a set of tools to manage successfully parts or all of an organization's operations. The Management degree allows students the ability to customize their degree within one of three focus areas:

1) Human Resources Focus - An experiential-learning focused program designed to prepare students to develop and manage the human capital of an organization.Students will be prepared to develop and implement policies and practices for recruitment, socialization, training, development, compensation, performance management, career planning, and employee relations. As more organizations move away from viewing employees as a commodity, toward an understanding that employees are a resource that can be developed into a distinct competitive advantage to ensure organizational success, sustainability, and reputation in the human resource function in the workplace will become increasingly important. This focus area will help employees understand the core functions of the area of human resource management are to a) recognize the potential of individuals for and within an organization and b) structure a positive, supportive, constructive work environment that will enable employees to work at their optimal capacity and achieve organizational goals.

2) General Management Focus - A multi-faceted program designed to prepare students to manage multiple business functions across a variety of organizational types. A particular emphasis is to help develop interpersonal and problem-solving skills so they are capable of resolving a broad spectrum of problems for large or small organizations, or consult with organizations about these issues. This focus area is designed to provide students with a large degree of flexibility when considering different career paths, because students will be prepared to systematically think through the processes that organizations use to create and maintain sustainable competitive advantage. The focus will help prepare students to work in for-profit businesses, non-profit organizations, entrepreneurial ventures, or in government organizations.

3) Management Hospitality Focus - An experiential-learning focused program designed to provide students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, entrepreneurship, and consumer relations.

Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

The Management major, including focus areas, are available to students as an online degree completion program.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Marketing

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers and for managing relationships in ways to benefit local and global stakeholders. Marketing majors are employed in a wide variety of industries and governmental agencies where understanding and managing customer relationships are critical. Students find jobs in market research, advertising, public relations, professional selling, non-profit marketing, product management, retailing, digital marketing and brand management.

The Marketing Major is available to students as an online degree completion program.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Professional Sales

The Professional Sales major prepares students to manage business clients of for-profit and nonprofit organizations. Specifically, this major provides business students with coursework and opportunities to equip themselves with essential knowledge and skills required to begin professional careers in sales. Careers in sales offer independence, ample financial reward, personal growth and opportunities for rapid advancement within organizations. Students that pursue a degree in professional sales will be challenged with industry engagement opportunities such as internships, and sales competitions. Students experience rigorous classroom experiences designed to develop the knowledge and practical skills needed to succeed during the first years of their sales careers including: oral and written communication skills, selling techniques and networking, the use of sales technology and customer information, and sales pipeline management.

All professional sales majors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All professional selling courses for the major require a minimum grade of C.

A complete curriculum sheet is available from the College of Business Peter M. & Paula Green Johnson Student Success Center.

Graduate Study

The Department of Management and Marketing offers a Ph.D. in Marketing and Management. Some 4000- and 5000 level classes may be counted as graduate classes in other programs.

Doctoral Program

Doctor of Philosophy in Marketing and Management

The Department of Management and Marketing offers a program leading to a Doctor of Philosophy in Marketing and Management. The program of study draws from extant marketing theory, primarily in consumer behavior, combined with studies in the basic social sciences (e.g., economics, psychology, education, communications) and other applied sciences (e.g., environmental sciences) to create a base of knowledge acceptable for marketing and management scholarship in higher education, and a depth of knowledge conducive to a stream of publishable research in a specific topic area. Theoretical development is supplemented with course work in the gathering and analysis of qualitative and quantitative data, which prepares the student for rigorous exploration of marketing and managerial phenomena. Students are required to complete 72 semester hours and a scholarly dissertation that contributes to the knowledge foundations in marketing or management and contributes to the basic sciences that informed the inquiry. Semester hours will include core classes from the department graduate faculty, outside elective courses in statistics, basic social sciences, and/or interdisciplinary studies in environmental and natural resources, and dissertation work. First and second year research projects are also required, aimed at the student having published articles in respected marketing management and/or social science journals before program completion. A comprehensive exam is completed at the end of the second semester.

All doctoral students are mentored in both research and teaching. Students are expected to teach while enrolled in the program. The program is designed to give students expertise

and demonstrated competency in both Research and teaching.

Application Deadlines

We begin accepting applications in October for the following fall semester. All completed applications must be submitted by February 1st.

Admission Requirements

• A master's degree is preferred but not required. Highly qualified students without a master's degree may receive consideration

• Completed application (i.e., all required materials submitted) on the UW Graduate Programs Applications system

• $50 application fee paid to University Admissions. This covers administrative expenses and will not be waived

• Copies of **all** undergraduate and graduate program transcripts scanned and uploaded to the UW system, and official transcripts from each post-secondary institution attended submitted to the UW admissions office

• A valid GRE (310) or GMAT (650) score. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be requested from the testing organization and sent to UW

• Three strong letters of recommendation, including one or more from an academic. The letters must be uploaded by the recommenders to the UW system in MS Word or .pdf format

• A personal statement summarizing your interest in pursuing doctoral studies and speaking to questions or issues you wish to research. This document must be uploaded to the UW system as an MS Word or .pdf document

• For international students, an English proficiency test is required: Test of Foreign Language (TOEFL), IELTS or DUOLINGO scores are accepted. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be submitted to UW from the testing organization. Minimum scores:

- TOEFL score of 76 (online), 540 (paper) or 207 (computer-based) is required for admission
- IELTS minimum score of 6.5 is required for admission
- Duolingo minimum score of 110 is required for admission

Major

Entrepreneurship, B.S.B.

For students who wish to start their own businesses, provides exposure to the development and testing of business concepts, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3

- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Entrepreneurship Core

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- ENTR 4700 - Business Model Creation and Launch Credits: 3
- ENTR 4750 - Theories of Entrepreneurship Credits: 3

Entrepreneurship Elective - Credits: 3

Choose 1 from the following:

- ENTR 4910 - Topics in Entrepreneurship Credits: 3
- ENTR 4900 - Independent Study in Entrepreneurship Credits: 1-4
- MGT 2030 - Principle-Based Ethics Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3

Advanced Business Electives - Credits: 6

Any business course at a 3000+ level that has not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

The Entrepreneurship major is designed to assist students who wish to start their own businesses by providing them with exposure to the development and testing of business concepts. Analyzing the potential success of their concepts using a variety of tools and techniques, being flexible in developing new businesses and innovative ideas, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures. The major provides students with exposure to issues involving family firms such as governance, succession and interpersonal relationships in both new ventures and established firms and prepares students to 1) start new businesses, 2) innovate in their own family firms and/or 3) be entrepreneurial in an existing business.

All courses for the entrepreneurship major require a minimum grade of C (not C-).

Management, B.S.B.

Studies the activities and operations that bring together human, financial, material, and information resources to achieve goals in organizations. Students can customize their degree within one of three focus areas: Human Resources, General Management, or Management Hospitality.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the buisness credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Students must complete the math core, the management core, one of the focus areas and electives.

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4

- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Management Core

- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3

Choose one area of focus and its accompanying elective requirement.

Human Resources Focus - Credits: 9

- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 4220 - Talent Acquisition Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3
- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3

Upper-Division Business Electives - Credits 6

Any business courses at a 3000+ level that have not been used to meet any other primary major requirement.

General Management Focus - Credits: 9

- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3
- DSCI 4240 - Computer Applications in Decision Sciences Credits: 3
- DSCI 4260 - Project Management Credits: 3
- ENTR 2400 - Entrepreneurial Mindset Credits: 3

- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3

Upper-Division Business Electives: Credits: 6

Any business courses at a 3000+ level that have not been used to meet any other primary major requirements.

Management Hospitality Focus - Credits: 9

- BUSN 4600 - Advanced Internship in Business Credits: 1-3
- HOSP 2000 - Foundations of Customer Service & Hospitality Credits: 3
- HOSP 3000 - Managing Profitability in Hospitality Credits: 3

Management Hospitality Focus Elective Courses - Credits: 6

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- HOSP 4800 - Hospitality Operations Management Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- MKT 4440 - Services Marketing Credits: 3

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

The Management major focuses on using resources to achieve goals in organizations. It studies the activities and operations that bring together human, financial, material, and information resources. Management majors should graduate with an understanding of the business world and a set of tools to manage successfully parts or all of an organization's operations. The Management degree allows students the

ability to customize their degree within one of three focus areas:

1) Human Resources Focus - An experiential-learning focused program designed to prepare students to develop and manage the human capital of an organization. Students will be prepared to develop and implement policies and practices for recruitment, socialization, training, development, compensation, performance management, career planning, and employee relations. As more organizations move away from viewing employees as a commodity, toward an understanding that employees are a resource that can be developed into a distinct competitive advantage to ensure organizational success, sustainability, and reputation in the human resource function in the workplace will become increasingly important. A Human Resource focus will help employees understand the core functions of the area of human resource management are to a) recognize the potential of individuals for and within an organization and b) structure a positive, supportive, constructive work environment that will enable employees to work at their optimal capacity and achieve organizational goals.

2) General Management Focus - A multi-faceted program designed to prepare students to manage multiple business functions across a variety of organizational types. A particular emphasis is to help develop interpersonal and problem-solving skills so they are capable of resolving a broad spectrum of problems for large or small organizations, or consult with organizations about these issues. This focus area is designed to provide students with a large degree of flexibility when considering different career paths, because students will be prepared to systematically think through the processes that organizations use to create and maintain sustainable competitive advantage. General Management prepares students to work in for-profit businesses, non-profit organizations, entrepreneurial ventures, or in government organizations.

3) Management Hospitality Focus - An experiential-learning focused program designed to provide students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, entrepreneurship, and consumer relations. Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

The Management major is available to students as an online degree completion program under the Human Resource focus area and the General Management focus area.

All management courses for the major require a minimum grade of C (not C-).

Marketing, B.S.B.

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers, and for managing relationships in ways to benefit local and global stakeholders.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3

- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Marketing Core

- MKT 4240 - Consumer Behavior Credits: 3
- MKT 4450 - Advanced Marketing Management Credits: 3
- MKT 4520 - Marketing Research and Analysis Credits: 3

Marketing Electives - Credits: 6

Any MKT or SELL course at the 3000+ level that has not been used to meet any other primary major requirement.

Upper Business Electives: 6 Credits

Any business courses at a 3000 - 4000 level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers, and for managing relationships in ways to benefit local and global stakeholders. Marketing majors are employed in a wide variety of industries and governmental agencies where understanding and managing customer relationships are critical. Students find jobs in market research, advertising, public relations, professional selling, non-profit marketing, product management, retailing, digital marketing, and brand management.

The Marketing major is available to students as an online degree completion program.

All marketing courses for the major require a minimum grade of C (not C-).

Professional Sales, B.S.B.

Prepares students to manage business clients of for-profit and nonprofit organizations. Rigorous classroom experiences and industry opportunities equip students with essential knowledge and skills required to begin professional careers in sales.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

  OR
- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

  OR
- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Professional Sales Core

- SELL 3310 - Professional and Technical Selling Credits: 3

- SELL 4310 - Advanced Selling Credits: 3
- SELL 4320 - Sales Force Strategies Credits: 3

Choose one of the following two courses:

- SELL 4330 - Sales Seminar Credits: 3

Or

- SELL 4340 - Professional Sports Sales Credits: 3

Professional Sales Electives - Credits: 3

Choose 1 from the following list:

- DSCI 4260 - Project Management Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3
- MGT 4395 - Supply Chain Management (Capstone) Credits: 3
- SELL 4900 - Independent Study in Professional Selling Credits: 1-4

(NCSC Sales Competition)

- SELL 4910 - Topics in Professional Selling Credits: 3

Advanced Business Electives - Credits: 6

Any business courses at a 3000 - 4000 level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

The Professional Sales major prepares students to manage business clients of for-profit and nonprofit organizations. Specifically, this major provides business students with coursework and opportunities to equip themselves with essential knowledge and skills required to begin professional careers in sales. Careers in sales offer independence, ample financial reward, personal growth and opportunities for rapid advancement within organizations. Students that pursue a degree in professional sales will be challenged with industry engagement opportunities such as internships, and sales competitions. Students experience rigorous classroom experiences designed to develop the knowledge and practical skills needed to succeed during the first years of their sales careers including: oral and written communication skills, selling techniques and networking, the use of sales

technology and customer information, and sales pipeline management.

All professional selling courses for the major require a minimum grade of C.

Minor

Entrepreneurship Minor

A minor in entrepreneurship features business courses likely to be important to the creator of a new venture and/or someone seeking to bring innovation and creativity to an existing enterprise. **For non-College of Business majors only.**

Entrepreneurship Minor Requirements - Credits: 9

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- ENTR 4700 - Business Model Creation and Launch Credits: 3
- *Combination of courses from the Approved Electives for the Entrepreneurship Minor list totaling 6 credit hours.*

Approved Electives for the Entrepreneurship Minor - Credits: 6

- ACCT 3100 - Financial Statement Analysis Credits: 3
- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- DSCI 4230 - Purchasing and Supply Management Credits: 3
- ENTR 3020 - Comparison of Entrepreneurial Ecosystems Credits: 3
- ENTR 4750 - Theories of Entrepreneurship Credits: 3
- ES 4920 - Entrepreneurship for Engineers Credits: 3

- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4001 - Music Entrepreneurship Seminar Credits: 2
- MUSC 4005 - Internship in Music Business Credits: 1
- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- SELL 4310 - Advanced Selling Credits: 3

Additional Information

A minor in entrepreneurship features business courses likely to be important to the creator of a new venture and/or someone seeking to bring innovation and creativity to an existing enterprise. The minor includes exposure to various elements of the entrepreneurial process, including creativity, ideation, innovation, value proposition, and business model creation.

(For non-College of Business majors only)

All courses for the Entrepreneurship minor require a minimum grade of C (not C-).

Hospitality Business Management Minor

The Hospitality Business Minor provides students an understanding of the operations of multiple domains of the hospitality industry.

Minor Total Credits: 15

Required Courses - Credits: 9

- HOSP 2000 - Foundations of Customer Service & Hospitality Credits: 3
- HOSP 3000 - Managing Profitability in Hospitality Credits: 3
- HOSP 4800 - Hospitality Operations Management Credits: 3

Approved Elective Courses - Credits 6

- FCSC 1141 - Principles of Nutrition Credits: 3
- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3
- BUSN 4600 - Advanced Internship in Business Credits: 1-3
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- MKT 4440 - Services Marketing Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- MGT 4340 - Law for Managers Credits: 3

Additional Information

The Hospitality Business Minor provides students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, and entrepreneurship and consumer relations. Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

All courses for the hospitality minor require a minimum grade of C (not C-).

Leadership Minor

A unique experience that prepares students to be principle-based leaders in every facet of their lives. Students develop leadership competencies and their own personal leadership style, and are prepared to make decisions in principle-based ways.

Minor Total Credits: 15

Required Courses - Credits: 9

- MGT 2030 - Principle-Based Ethics Credits: 3

- LEAD 3110 - Foundations for Leadership Credits: 3
- LEAD 4110 - Leadership in Practice Credits: 3

Leadership Electives - Credits: 6

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- LEAD 4210 - Systems-led Leadership Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3
- AGRI 4700 - Elements of Leadership Credits: 3
- AIR 2010 - Team and Leadership Fundamentals I Credits: 1-0.5
- AIR 2020 - Team and Leadership Fundamentals II Credits: 1-0.5
- AIR 3010 - Leading People/Effective Communication I Credits: 3
- AIR 3020 - Leading People/Effective Communication II Credits: 3
- ARMY 2010 - Leadership and Ethics Credits: 1
- ARMY 2020 - Army Doctrine and Decision Making Credits: 2
- ARMY 2060 - Competent and Confident Leadership Credits: 2
- ARMY 3010 - Training Management & Warfighting Functions Credits: 1
- ARMY 3020 - Applied Leadership in Small Unit Operations Credits: 3
- ARMY 4010 - The Army Officer Credits: 1
- ARMY 4020 - Company Grade Leadership Credits: 2
- CNSL 2200 - Introduction to Student Leadership Credits: 2
- CNSL 3010 - Student Leadership Strategies Credits: 2
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- ENR 2410 - Introduction to Outdoor Leadership Credits: 3

OR

- ORTM 2410 - Outdoor Leadership Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4835 - Leading Nursing Practice Credits: 2
- GWST 2050 - Women and Leadership Credits: 3
- UWYO 3000 - Student Leadership in Supplemental Instruction Credits: 2

(UWYO 3000 is a closed enrollment course. Students may only enroll if invited by LeaRN Program Director)

Additional Information

The Leadership Minor is a unique interdisciplinary curricular, co-curricular, and extra-curricular experience that prepares students to be principle-based leaders in every facet of their lives. Through the Leadership Minor, students develop leadership competencies and their own personal leadership style, and are prepared to make decisions in principle-based ways.

All courses for the leadership minor require a minimum grade of C (not C-).

Professional and Technical Selling Minor

Provides students with technical and/or liberal arts backgrounds with opportunities to pair these backgrounds with essential knowledge and skills required for careers in sales. Combines rigorous classroom experiences with industry opportunities.

Minor Total Credits: 15

Professional and Technical Selling Requirement - Credits: 3

- SELL 3310 - Professional and Technical Selling Credits: 3

Professional and Technical Selling Approved Elective Courses - Credits: 6

- SELL 4310 - Advanced Selling Credits: 3

  OR
- SELL 4320 - Sales Force Strategies Credits: 3

  AND
- SELL 4330 - Sales Seminar Credits: 3

  OR
- SELL 4340 - Professional Sports Sales Credits: 3

Advanced Business Electives - Credits: 6

- Any business courses at the 3000 - 4000 level - Credits: 6

Additional Information

The professional and technical selling minor prepares students to manage business clients. This minor provides students with technical and/or liberal arts backgrounds with opportunities to pair these backgrounds with essential knowledge and skills required for careers in sales. Careers in sales offer independence, ample financial reward, personal growth, and opportunities for rapid advancement within organizations. Students experience rigorous classroom experiences designed to develop important knowledge and practical selling skills including: oral and written communication skills, selling techniques and networking, and the use of sales technology and customer information.

All professional and technical selling minors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All professional selling courses for the minor require a minimum grade of C.

15 credit hours (3 credits required course, 6 credits from the Approved Elective Courses for the Professional and Technical Selling Minor course list, 6 credits of Advanced Business Electives)

Graduate

Business Administration, M.B.A.

The UW MBA program offers an accelerated 1-year MBA tailored to those looking to gain the needed experience and business insights required in today's competitive marketplace.

Additional Requirements

- Thirty-six (36) credit hours of graduate coursework, including participation in all MBA Program activities (orientation, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development, etc.). Please note that students enrolled in any dual degree MBA program are

required to complete all MBA participation activities and the core coursework.

- This is a cohort based program and while the course sequence is highly structured, there may be the opportunity to extend the duration of the one-year program. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.
- Participation in the International trip experience is required for all students in the Campus MBA program.

Course of Study

MBA Core Requirements (27 Credit Hours)

Required of all MBA students including all dual degree students.

- MBAM 5101 - MBA Foundations Credits: 1
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5201 - Data & Business Analytics Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 - Executive Leadership II Credits: 1
- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3
- MBAM 5434 - Macro Economic Analysis Credits: 3

MBA Elective Requirements

- MBA students must take an additional 9 credit hours of 5000 level College of Business courses. Dual degree students (JD/PharmD/MS) may take 6 credit hours outside the College of Business following dual degree agreement guidelines. Please contact your advisor for additional information.

Business Administration, Online, M.B.A.

The Online MBA Program is specifically designed for business professionals interested in a fully AACSB accredited, 100% online program that fits their busy schedules and enhances their understanding of decision-making in the workplace.

Additional Requirements

- 30 credit hours of graduate credit as outlined in the Course of Study.
- Concentration Available: Energy (EMN)
- Optional Certificate Add-Ons: CFP (certified financial planning) or Energy Business. Adding on a certificate may increase required number of credit hours. Please contact us for additional information.
- This is a cohort based program that can be flexible in sequence depending on student needs. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, student will be immediately dismissed from the program.

Prerequisite Courses

Prerequisite coursework may be requested based on experience and undergraduate coursework at the discretion of the MBA Program Director as part of the application process. Please contact the MBA & Professional Graduate Program Office for additional information.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation. The student must then receive a 3.0 GPA in all following semesters to avoid being dismissed from the program. A minimum cumulative GPA of 3.000 is required to graduate.

- A student who earns a grade lower than a "C" in any course may be immediately dismissed from the program.

Course of Study

MBA Core Requirements (21 Credit Hours)

Required of all MBAX students.

- MBAX 5104 - Organizational Behavior and Human Resource Management Credits: 3

- MBAX 5202 - Data and Decision Modeling Credits: 3
- MBAX 5204 - Financial Management Credits: 3
- MBAX 5208 - Accounting for Managers Credits: 3
- MBAX 5207 - Marketing Management Credits: 3
- MBAX 5330 - The Global Business Environment Credits: 3
- MBAX 5305 - Strategic Management Credits: 3

MBA Elective/Concentration Requirements

- MBA-MBAX students must take an additional 9 credit hours of 5000 level College of Business courses.
- Energy Concentration students will complete the additional 9 credit hours of coursework as follows:
- ACCT 5503 Fundamentals of Accounting in the Energy Industry. 3.
- MGT 5504 Energy Industry Value Chain. 3.
- FIN 5502 Energy Finance: Project Evaluation. 3.

Notes:

Students who are participating in the Advanced Accounting Concentration will not take MBAM 5208 or the required electives. Instead, they will take the following classes:

- ACCT 5030 - Advanced Financial Accounting Credits: 3
- ACCT 5040 - Seminar in Managerial Accounting Credits: 3
- ACCT 5060 - Auditing II Credits: 3
- ACCT 5070 - Tax II Credits: 3

Marketing and Management, Ph.D.

The program of study draws from extant marketing and management theory, combined with studies in basic and other applied sciences to create a base of knowledge, which is supplemented with courses in the gathering and analysis of qualitative and quantitative data.

Additional Requirements

Doctoral Program

Doctor of Philosophy in Marketing and Management

The Department of Management and Marketing offers a program leading to a Doctor of Philosophy in Marketing and Management. The program of study draws from extant marketing and management theory, including strategy and consumer and organizational behavior, combined with studies in the basic sciences (e.g., economics, psychology, education, communications) and other applied sciences (e.g., environmental sciences) to create a base of knowledge acceptable for marketing and management scholarship in higher education, and a depth of knowledge conducive to a stream of publishable research in a specific topic area within either marketing or management. Theoretical development is supplemented with course work in the gathering and analysis of qualitative and quantitative data, which prepares the student for rigorous exploration of marketing and managerial phenomena. Students are required to complete 72 semester hours and a scholarly dissertation that contributes to the knowledge foundations in marketing or management and contributes to the basic sciences that informed the inquiry. Semester hours will include core classes from the department graduate faculty, outside elective courses in statistics, basic social sciences, and/or interdisciplinary studies in environmental and natural resources, and dissertation work. First and second year research projects are also required, aimed at the student having published articles in respected marketing, management and/or social science journals before program completion. A Comprehensive exam is completed at the end of the second semester.

All doctoral students are mentored in both research and teaching. Students are expected to teach while enrolled in the program. The program is designed to give students expertise and demonstrated competency in both research and teaching.

Application Deadlines

We begin accepting applications in October for the following fall semester. All completed applications must be submitted by February 1st.

Admission Requirements

• A master's degree is preferred but not required. Highly qualified students without a Master's degree may receive consideration.

• Completed application (i.e., all required materials submitted) on the UW Graduate Programs Applications system

• $50 application fee paid to University Admissions. This covers administrative expenses and will not be waived.

• Copies of **all** undergraduate and graduate program transcripts scanned and uploaded to the UW system, and official transcripts from each post-secondary institution attended submitted to the UW admissions office

• A valid GRE (310) or GMAT (650) score. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be requested from the testing organization and sent to UW

• Three strong letters of recommendation, including one or more from an academic. The letters must be uploaded by the recommenders to the UW system in MS Word or .pdf format

• A personal statement summarizing your interest in pursuing doctoral studies and speaking to questions or issues you wish to research. This document must be uploaded to the UW system as an MS Word or .pdf document

• For international students, an English proficiency test is required: Test of Foreign Language (TOEFL), International English Language Testing System (IELTS), or DUOLINGO scores are accepted. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be submitted to UW from the testing organization. Minimum scores:

- TOEFL score of 76 (online), 540 (paper) or 207 (computer-based) is required for admission
- IELTS minimum score of 6.5 is required for admission
- Duolingo minimum score of 110 is required for admission

Certificate

Energy Business Certificate (Graduate)

The online Energy Business Certificate is designed for professionals working in the energy indsutry who are interested in gaining knowledge related to real-world application within the highly competitive industry.

Additional Requirements

The Certificate in Energy Business is composed of 9-credits of masters-level graduate coursework in the College of Business, with the primary goal of achieving mastery and professional skills common to functional business roles within the energy industry. Specifically:

- Develop a working understanding of the concepts and practices of Supply Chain Management to make strategic support decisions within the energy industry.
- Acquire the foundation necessary to work in the energy industry as a financial statement analyst, manager, auditor, or accountant.
- Utilize core capital budgeting, techno-economic cashflow modeling and other finance concepts to evaluate energy industry project investments.
- Demonstrate effective problem solving, written, and oral communication skills in the context of the energy industry.

Certificate Requirements

- FIN 5502 - Energy Finance: Project Evaluation Credits: 3
- ACCT 5503 - Fundamentals of Accounting in the Energy Industry Credits: 3
- MGT 5504 - Energy Industry Value Chain Credits: 3
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Master of Business Administration (MBA)

Master of Business Administration (MBAM)

MBA & Professional Graduate Programs Office
1000 E. University Ave., Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

MBA - Campus

Program Overview

The UW MBA Program delivers professional management education that connects principles, concepts, and intense case analysis with real world experience as tools for making business decisions. Students will develop leadership and managerial skills. UW MBAs will possess the education and

training to compete in today's rapidly changing global business world.

Class sizes are small and diverse. Courses are taught by a select group of business faculty members. The total program experience (both inside and outside the classroom) is designed to provide experiential learning along with access to powerful networks.

Admission Requirements

A Faculty Admissions Committee, chaired by the Director of the MBA Program, will review all applicants. Application to the program is open to students who have a baccalaureate degree from an accredited university or college. Please view the full list of admission requirements below.

Students whose native language is not English must submit TOEFL results (or another approved English proficiency exam). There are no exceptions for students from other UW colleges and schools seeking dual degrees. If an international applicant wishes to be considered for GA funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI) or an approved alternative to the OPI. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please be advised that our program includes significant class discussion, substantial daily reading, many written assignments, and presentations.

Dual Degree Programs

The following dual degree programs are available:

- MS in Engineering / MBA
- Pharm. D. / MBA
- J.D. / MBA

Students will need to meet all MBA admission requirements and respective dual college/department requirements and be admitted to both degree programs in order to be considered for the dual degree program. The MBA core requirements are required of all students. After successful completion of all requirements, students in the dual degree program will graduate with two graduate level degrees.

Admission to the Master of Business Administration program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions,

please visit the U.S. Department of Education site. For students who are applying for the Advanced Accounting Concentration the Bachelor's degree must be in Accounting.

- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. Based on a 4.0 scale. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE/GMAT is not required except when requested by the program director.
- Professional resume.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

Note: These are the minimum requirements and do not guarantee admission or funding.

Prerequisites: No specific prerequisite courses are required. However, evidence of technical proficiency and/or prior business experience from your work history and transcripts are considered in the admissions process. If admitted to the program, all MBA students are required to take our MBA Foundations course, which establishes a baseline level of knowledge in Accounting, Finance, Economics, and Statistics.

Additional International Student Admission Requirements:

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers

for the English language proficiency requirement will be granted according to the UW policy found on the admissions website:https://www.uwyo.edu/admissions/international/english-alternatives.html

- International students must also prove sufficient financial resources as established by the University of Wyoming (Graduate International Student Admissions).

Degree Requirements

- Thirty-six (MBA-MBA) credit hours of graduate coursework, including participation in all MBA Program activities (orientation, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development, International Business Trip, etc.). Please note that students enrolled in any dual degree MBA program are required to complete all MBA participation activities and the core coursework.
- This is a cohort based program and while the course sequence is highly structured, there may be the opportunity to extend the duration of the one-year program. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Course of Study

Pre-Term: All admitted MBA students will complete a Foundations course during orientation, the International Business trip, and the Jackson Leadership Summit. Students may also receive pre-term assignments and/or pre-term prep course material.

MBA Core Requirements (27 credit hours) - Required of all MBA students as well as all Dual Degree MBA students.

- MBAM 5101 MBA Foundations. 1.
- MBAM 5104 Organizational Behavior and HRM. 3.
- MBAM 5107 Executive Leadership I. 1.
- MBAM 5201 Data & Business Analytics. 3.
- MBAM 5204 Financial Management. 3.
- MBAM 5207 Marketing Management. 3.
- MBAM 5208 Accounting for Managers. 3. or MBAM 5208 Managerial Accounting. 3.
- MBAM 5209 Executive Leadership II. 1.
- MBAM 5305 Strategic Management. 3.
- MBAM 5330 Global Business Environment. 3.
- MBAM 5434 Macro Economic Analysis. 3.

MBA Elective Requirements

- Campus-MBA students, must take an additional 9 credit hours of 5000 level College of Business courses. Some credits may be taken outside the college of business with the approval of the program director. Please contact your advisor for additional information.

Students who are participating in the Advanced Accounting Concentration will not take MBAM 5208 or the required electives. Instead, they will take the following classes:

- ACCT5030 - Advanced Financial Accounting. 3.
- ACCT5040 - Seminar in Managerial Accounting. 3.
- ACCT5060 - Auditing II. 3.
- ACCT5070 - Tax II. 3.

Students that would like to participate in the Venture MBA track are expected to take the following electives:

- ENTR 5601 New Ventures. 3.
- ENTR 5602 Strategic Management of Innovation & Technology. 3.
- ENTR 5603 Entrepreneurial Finance. 3.
- 6 credits of Thesis, Independent Study, Practicum, or Internship.

Application Deadlines

- **Fall Admission Only**
- Final Deadline: June 1
- Priority Deadline: November 1
- Wyoming Resident and Scholarship Deadline: March 1

**International Applicants: Please be advised that there are additional* university requirements *that may take additional processing time - you are highly encouraged to apply prior to the application deadline to ensure that if admitted, all required documentation can be provided prior to the beginning of the term of entry.*

Additional Information

Tuition & Fees

Tuition and fee charges will not include the cost of textbooks. Please refer to University of Wyoming cost of attendance for additional information.

MBA Executive Speaker Series

Students participate in weekly meetings (primarily on Fridays) with business leaders from a wide variety of industries (business, government, and non-profit entities). The program takes place mostly on campus, but does include

some travel. This program supplements the class work, provides discussion and learnings of business challenges, opens the students' horizons on career opportunities, and provides long-term networking opportunities. Attendance is Required

International Business Trip

The International Business Trip introduces students to themes and trends prevalent in the global business marketplace. The trip includes company visits, cultural experiences, and reflections on the issues individuals and companies face in global business. This experience is associated with MBAM 5330 Global Business, and part of the grade for the course is dependent on the student's performance on the trip. Attendance is required.

Jackson Leadership Summit

Exclusive leadership development event for MBA students to network with an astute panel of individuals with proven business success. Topics usually focus on the global economy and strategic planning. Attendance is required.

Campus to Online MBA Program

Students enrolled in the campus MBA program may, on a case-by-case basis apply credits from the Online MBA program (courses with an MBAX prefix) to their degree, and vice versa. Must be approved by the Program Director.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming. Other requirements involving program dismissal include:

- A student who earns a grade of "D" or lower in any one course will be dismissed from the program. Students may petition to be reinstated into the program.

Online Master of Business Administration (MBAX)

MBA & Professional Graduate Programs Office
1000 E. University Ave., Dept. 3275
Laramie, WY 82071
(307) 766-2447
Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

MBA-MBAX - Online

Program Overview

The University of Wyoming offers a flexible Online MBA. The Online MBA Program is specifically designed for experienced business professionals interested in an AACSB accredited, 100% online program that fits their busy schedules. This program is typically completed in two years and is tailored for professionals interested in enhancing their understanding of business disciplines and applying them to decision-making. With starts each Fall, Spring, and Summer, the cohort-based program consists of a minimum 30 credit hours of required coursework.

Program Admission Requirements

A Faculty Admissions Committee, chaired by the Director of the MBA Program, will review all applicants. Application to the program is open to students who have a baccalaureate degree from an accredited university or college. Please see full list of admission requirements below.

Students whose native language is not English must submit TOEFL results, or results of another approved English proficiency exam. There are no exceptions for students from other UW colleges and schools seeking dual degrees. If an international applicant wishes to be considered for GA funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI) or an approved alternative. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please be advised that our program includes significant class discussion, substantial daily reading, many written assignments, and presentations.

Admission to the Online Master of Business Administration program generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.

- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site.For students who are applying for the Advanced Accounting Concentration the Bachelor's degree must be in Accounting.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred. Based on a 4.0 scale. If you do not meet this minimum preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE/GMAT is not required except when requested by the program director.
- Professional resume. A minimum 2 years' professional work experience is preferred.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience.

Note: These are the minimum requirements and do not guarantee admission or funding.

Prerequisites: Prerequisite courses may be required as determined by the MBA Director. Please reach out to our office at cobgradprograms@uwyo.edu or 307-766-2482 for additional information.

Additional International Student Admissions Requirements

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam, or another approved English proficiency exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be

granted according to the UW policy found on the admissions website:
https://www.uwyo.edu/admissions/international/english-alternatives.html.

Degree Requirements

- Thirty (30) credit hours of graduate credit as outlined in the Course of Study section.
- While the course sequence is structured, there is a lot of opportunity for flexibility. This program can be completed in one or two years most commonly, but longer completion timelines can be discussed. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F.

Course of Study

MBA Core Requirements (21 credit hours) - Required of all MBAX students.

- MBAX 5104 Organizational Behavior & HRM. 3.
- MBAX 5202 Data and Decision Modeling. 3.
- MBAX 5204 Financial Management. 3.
- MBAX 5207 Marketing Management. 3.
- MBAX 5208 Accounting for Managers. 3.
- MBAX 5305 Strategic Management. 3.
- MBAX 5330 The Global Business Environment. 3.

MBA Elective/Concentration Requirements

- MBA-MBAX students must take an additional 9 credit hours of 5000 level College of Business courses.
- Energy Concentration students will complete the additional 9 credit hours of coursework as follows:
- ACCT 5503 Fundamentals of Accounting in the Energy Industry. 3.
- MGT 5504 Energy Industry Value Chain. 3.
- FIN 5502 Energy Finance: Project Evaluation. 3.

Students who are participating in the Advanced Accounting Concentration will not take MBAX 5208 or the required electives. Instead, they will take the following classes:

- ACCT5030 - Advanced Financial Accounting. 3.
- ACCT5040 - Seminar in Managerial Accounting. 3.
- ACCT5060 - Auditing II. 3.
- ACCT5070 - Tax II. 3

Application Deadlines

- **Fall Admission**
- Block 1 Final Deadline: July 1
- Block 2 Final Deadline: September 15
- **Spring Admission**
- Block 1 Final Deadline: December 1
- Block 2 Final Deadline: February 15
- **Summer Admission**
- Final Deadline: April 1

**International Applicants: Please be advised that there are additional* university requirements *that may take additional processing time - you are highly encouraged to apply prior to the application deadline to ensure that if admitted, all required documentation can be provided prior to the beginning of the term of entry.*

Additional Information

Tuition and Fees

Tuition and fee charges will not include the cost of textbooks. Please refer to University of Wyoming cost of attendance for additional information.

Online to Campus MBA Program

Students enrolled in the online MBA program may, on a case-by-case basis apply credits from the campus MBA program (courses with an MBAM prefix) to their degree, and vice versa. Must be approved by the Program Director.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming.

College of Business Graduate Certificate Programs

MBA & Professional Graduate Programs Office
1000 E. University Ave,. Dept. 3275
Laramie, WY 82071
(307) 766-2447

Email: cobgradprograms@uwyo.edu
Web site: www.business.uwyo.edu/mba

CERT-MBAE - Energy Business
CERT-CFP - Certificed Financial Planning

Program Overview, Energy Business Certificate

The Certificate in Energy Business is composed of 9-credits of masters-level graduate coursework in the College of Business, with the primary goal of achieving mastery and professional skills common to functional business roles within the energy industry. Specifically:

- Develop a working understanding of the concepts and practices of Supply Chain Management to make strategic support decisions within the energy industry.
- Acquire the foundation necessary to work in the energy industry as a financial statement analyst, manager, auditor, or accountant.
- Utilize core capital budgeting, techno-economic cashflow modeling and other finance concepts to evaluate energy industry project investments.
- Demonstrate effective problem solving, written, and oral communication skills in the context of the energy industry.

Program Overview, CFP Certificate

The Certificate in Certified Financial Planning is composed of 18-credits of masters-level graduate coursework in the College of Business, with the primary goal of providing students with the education, training, and skills necessary to be able to sit for the Certified Financial Planner (CFP) examination. The curriculum is aligned with the CFP® Board's Principal Knowledge Topics and covers principles and practices of essential areas of financial planning, including:

- Wealth Management
- Investment Management
- Tax Planning
- Estate Planning
- Insurance and Retirement Planning

Program Admission Requirements

Admission to the graduate certificate programs generally requires:

- Completed University of Wyoming Graduate Admissions Application and non-refundable application fee.
- Bachelor's degree from a regionally accredited university or college. For more information on accredited institutions, please visit the U.S. Department of Education site.
- A cumulative undergraduate GPA of 3.0 or a 3.0 GPA in the last 60 credit hours of college or university coursework, preferred (based on a 4.0 scale). If you do not meet the preferred GPA, professional work experience in a related field may be considered on a case-by-case basis.
- GRE or GMAT Optional. A strong GRE or GMAT score may be considered to offset deficiencies in other areas of your application (such as a GPA below 3.0, limited work experience, etc.), but is not required.
- Professional resume. A minimum 2 years of professional work experience is preferred.
- Official transcripts of **all** undergraduate and graduate coursework (post-secondary) must be sent directly from the issuing institution to the University of Wyoming Admissions Office at 1000. E. University Ave., Laramie, WY 82071-2000. Official University of Wyoming transcripts do not need to be sent to the Office of Admissions, but copies of all transcripts must also be uploaded into the UW Graduate Admissions Application.
- Letters of recommendation (min. of 1, max. of 3). Professional (i.e. supervisor, employer, team lead, etc.) or education-related (i.e. advisor, mentor, faculty member, program director, etc.) letter(s) of recommendation provided directly by the reference via the UW Graduate Admissions Application.
- Interview. You will be contacted by our program office to participate in a virtual interview that can be completed at your convenience (no need to schedule a meeting).

Note: These are the minimum requirements and do not guarantee admission or funding. The University of Wyoming College of Business Graduate Certificate programs do not admit students provisionally or conditionally.

CERT-MBAE Prerequisites: Applicants must provide evidence of proficiency in the following areas:

Managerial Accounting

Finance

CERT-CFP Prerequisites: Applicants must provide evidence of proficiency in the following areas:

Business Math and Statistics

Financial Management

*Evidence of proficiency in these areas is considered on a case-by-case basis but is commonly pursued through supplemental courses and/or relevant professional experience. Please contact the program office for additional information.

Additional International Student Admissions Requirements

- Provide proof of satisfactory English ability if native language is not English by completing the TOEFL or IELTS exam. The minimum acceptable TOEFL (Test of English as a Foreign Language) score is 600 on the Paper-based test (TOEFL PBT) or a score of 100 on the Internet-based test (TOEFL iBT). The minimum acceptable IELTS score is 7. Waivers for the English language proficiency requirement will be granted according to the UW policy found on the admissions website: https://www.uwyo.edu/admissions/international/english-alternatives.html
- On-Campus Education Only: International students must also prove sufficient financial resources as established by the University of Wyoming (Graduate International Student Admissions).

Degree Requirements, Energy Business Certificate

- 9 total credit hours of coursework to include:
- FIN 5502 - Energy Finance: Project Evaluation. 3.
- ACCT 5503 - Fundamentals of Accounting in the Energy Industry. 3.
- MGT 5504 - Energy Industry Value Chain. 3.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Degree Requirements, CFP Certificate

- 18 total credit hours of coursework to include:
- FIN 5070 Tax Planning for Financial Planners. 3.
- FIN 5310 Investment Management. 3.
- FIN 5720 Insurance and Retirement Planning. 3.

- FIN 5750 Fundamentals of Financial Planning. 3.
- FIN 5780 Estate Planning. 3.
- FIN 5800 CFP Capstone. 3.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student will be immediately dismissed from the program.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation; the student must raise their cumulative GPA to 3.000 the following semester to avoid dismissal from the program and suspension from the University of Wyoming. Other requirements involving program dismissal include:

- A student who earns a grade lower than a "C" in any course must retake the course, or withdraw from the program.

School of Teacher Education

113 McWhinnie Hall, (307) 766-3130
Web site: www.uwyo.edu/ste

School Director: Scott Chamberlin

School of Teacher Education offers a wide variety of undergraduate teacher education degrees and minors, graduate degrees in curriculum and instruction, as well as several endorsement and certificate programs to prepare our students to be successful educators. Explore our diverse programs, career opportunities, and research possibilities with our dynamic faculty members.

Admission to the B.A. and B.S. Programs in the College of Education

New first-time students who meet the University of Wyoming's standards for admission may declare their major in Elementary Education, Secondary Education in a specific content area, or Education Undecided (EDUD), provided that they have a minimum ACT Composite score of 21 and an ACT Math score of 21 or a minimum new SAT combined score of 1060 with a minimum SAT Math score of 530. A lower ACT/SAT Math score can be replaced by a Math Placement Examination (MPE) score of 2 or higher. Education Undecided majors should decide on a specific content area no later than the first semester of their sophomore year.

All incoming students pursuing teacher certification and/or teacher endorsement programs must undergo an initial criminal background check prior to full admission to the College of Education. A second background check is included as part of the state application process for the Wyoming Substitute Teaching Permit, which is required for continuing the B.A. and B.S. programs after 60 credits.

For those students who do not meet the above admissions requirements, it is suggested that they major in exploratory studies (EXPL) so that they will receive more appropriate advising and access to support services through Advising, Career and Exploratory Studies until they have attained a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Current UW students who wish to change their major to Education but do not yet have a UW grade point average must wait until they meet the requirement of a minimum 2.750 UW grade point average, with at least 15 UW credits posted to their transcript. It is recommended that they complete a Program Change form and contact the College of Education Office of Student Success in McWhinnie Hall, room 100 to initiate the background check process. Students' progression through the Education curriculum could be delayed until all requirements are fulfilled and their major officially changed to Education.

Transfer students from out of state institutions, as well as from Wyoming community colleges wishing to declare a major in Education must have completed a minimum of 15 transferable credits, including the USP 2015 "Q" requirement (as determined by the UW Registrar), with a final grade higher than a C- to do so. Transfer students must have a minimum Transfer GPA of at least 2.750 and successfully complete an approved background check.

For transfer students not meeting these requirements, it is suggested that they major in exploratory studies (EXPL) so that they will receive more appropriate advising and access to support services through Advising, Career and Exploratory Studies until they meet requirement of a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Re-admitted students who return to UW after two or more semesters away, and wish to (re-)declare a major in Education, must have a minimum 2.750 UW GPA (with at least 15 UW credits) to do so and successfully complete an approved background check.

The following curricula summarize the programs offered by the College of Education. Students complete content courses in their major as well as professional education courses,

some of which can also be counted towards their University Studies Program requirements. The University Studies Program requirements include:

FY course or USP elective Credits: 3

Communication I (COM1) Credits: 3

Communication II (COM2) Credits: 3

Communication III (COM3) Credits: 3

Quantitative Reasoning (Q) Credits: 3

Physical and Natural World (PN) Credits: 6

Human Culture (H) Credits: 6

U.S. & Wyoming Constitutions (V) Credits: 3

The minimum total credit hours required to complete a degree in Education is 120. Of the minimum credit hours required to complete a program, 42 credit hours must be completed at the upper division level (3000-level or higher), with 30 of those credits being completed at UW. Additional College of Education requirements are:

1. 2.750 UW Total Institution grade point average

2. 2.500 grade point average in the content courses required for each specific major

3. A valid Wyoming substitute teaching certificate

Academic Advising

Students are assigned an academic advisor who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their advisor regularly. The College of Education Student Success Center coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Further information on each program is available in:

College of Education Student Success Center

McWhinnie Hall, room 100

Dept. 3374, 1000 E. University Ave.

Laramie, WY 82071

(307) 766-2230

Acceptability of Coursework

Courses taken to satisfy professional education requirements and major content requirements must be taken for a conventional grade (A-F) unless offered for S/U grading only.

Professional education courses taken at another institution must come from an accredited Educator Preparation Program (e.g. NCATE, CAEP, AAQEP) to be accepted for a degree and/or teacher certification program. Courses remain subject to review for applicability to UW requirements by the Registrar's Office and by the College of Education Student Success Center. Syllabi of completed courses may be requested.

The College of Education does not accept transfer credits for professional education or content area courses with equivalents at UW for courses with final grades of a C- or less.

The College of Education encourages students to take teaching methodology and student teaching coursework or credits from the University of Wyoming whenever possible.

Student Responsibility

College of Education students are responsible for knowing and meeting graduation requirements. Students are expected to maintain a 2.750 UW Total Institution grade point average to enter the advanced teacher education sequence to graduate. Prior to enrolling in professional education courses, students are expected to have met the specific program and course prerequisites as listed in this publication. Students are expected to make reasonable academic progress toward completion of a degree.

Undergraduate Programs

Bachelor of Science

Agricultural Education, B.S.

- Secondary Agricultural Education with Concurrent Major in Agricultural Business, B.S.
- Secondary Agricultural Education with Concurrent Major in Agricultural Communications, B.S.
- Secondary Agricultural Education with Concurrent Major in Animal and Veterinary Science, B.S.

Bachelor of Applied Science

Career and Technical Education

- Secondary Career & Technical Education with an Emphasis in Business, B.A.S
- Secondary Career & Technical Education, B.A.S.
- Secondary Career & Technical Education with Concurrent Major in Human Development & Family Science, B.A.S.

Bachelor of Arts

Elementary Education

- Elementary Education, B.A.

Elementary/Special Education

- Elementary Education/Special Education, B.A.

Secondary Education

- Secondary English Education with Concurrent Major in English, B.A.
- Secondary Mathematics Education with Concurrent Major in Mathematics, B.A.
- Secondary Modern Languages Education with Concurrent Major in French, B.A.
- Secondary Modern Languages Education with Concurrent Major in German, B.A.
- Secondary Modern Languages Education with Concurrent Major in Spanish, B.A.
- Secondary Science- Biological Science Education with Concurrent Major in Biology, B.A.
- Secondary Science- Chemistry Education with Concurrent Major in Chemistry, B.A.
- Secondary Science- Earth Science Education with Concurrent Major in Environmental Systems Science, B.A.
- Secondary Science- Earth Science Education with Concurrent Major in Geology, B.A.
- Secondary Science- Physics Education with Concurrent Major in Physics, B.A.
- Secondary Social Studies Education with Concurrent Major in History, B.A.
- Secondary Social Studies Education with Concurrent Major in Political Science, B.A.

Teaching Endorsements

A teaching endorsement is not a standalone teacher certification program. Endorsements are issued by the Wyoming Professional Teaching Standards Board (PTSB) to state-licensed Elementary (K-6) and Secondary (6-12) teachers qualified to teach in specific subject areas, in addition to their initial certification(s). By state statute, the University of Wyoming's College of Education is allowed to provide institutional recommendations for add-on endorsements in Biology, Chemistry, Earth Science, and Physics to those who have completed programs leading to licensure in secondary-level Science content areas.

Graduate Programs

Master's Programs

There are three master's programs in the College of Education and two of the three have additional specialization areas. They are designed to provide advanced study for educational professionals. Consult the School of Teacher Education for program requirements and expectations.

Doctoral Programs

Doctor of Education (Ed.D)

The College of Education Ed.D. program prepares students for scholarly inquiry and professional leadership in education. The program consists of (1) applied research, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for leadership roles in education, and (3) applied professional experiences tailored to individual needs and career goals. Each student works closely with an advisor and a supervisory faculty committee to select courses, topics of research, and professional opportunities.

Preparation in the above areas combine to:

- Convey deep scholarly knowledge of education and foster its application in practice;
- Promote a broad understanding of various methods of inquiry in education and foster its application in practice settings;
- Advocate practices that demonstrate a commitment to diversity in education;
- Foster ethical and professional research and practice in education;
- Promote excellence in applied professional practice.

The degree of Doctor of Education (Ed.D.) is offered to those who wish to pursue a program of study in preparation for professional service and leadership in education. The program is designed to meet the needs of those for whom intensive research is not a practical prerequisite to professional goals. Doctoral students are expected to

participate not only in organized coursework but also in other activities that will ensure breadth of outlook and technical competence.

Concentrations in the Doctor of Education are:

- Education, Ed.D., Concentration in Curriculum and Instruction
- Education, Ed.D., Concentration in Mathematics Education

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

The following requirements apply to all projects:

- Research-based (literature review)
- Scholarly, academic writing using APA style
- Primary or secondary data
- Authored by individual or small groups of students
- Uploaded to **ProQuest** for dissertations of practice or other projects in a dissertation format, and uploaded to the **Mountain Scholar Digital Collections** for projects in a non-dissertation format

Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the

guidance of a faculty member. Data can be obtained from primary or secondary sources.

Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to* **Mountain Scholar Digital Collections** *or dissertations of practice or other projects in a dissertation format to* **ProQuest** *is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Please note: After submitting the required steps for the Mountain Scholar Digital Collections you will receive a confirmation email. Please forward this email to your chair and the School of Teacher Education staff.

Doctor of Philosophy in Curriculum and Instruction (Ph.D.)

The College of Education Ph.D. program prepares students for careers of scholarly inquiry and teaching in higher education. The program consists of (1) continuous research or inquiry, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for future work in research and teaching, and (3) teaching and other related experiences tailored to individual needs and career goals. Each student works closely with an advisor and a supervisory faculty committee to select courses, topics of research and inquiry, and teaching experiences.

All coursework in the Ph.D. in Curriculum and Instruction program addresses the following goals:

To convey deep scholarly knowledge of education and related fields

To promote a broad understanding of various methods of inquiry in education and develop competency in several of those methods

To advocate practices that demonstrate a commitment to diversity in education

To foster ethical and professional research and practice in education

To promote excellence as a college teacher

Effective preparation for the Ph.D. stems from collaborative research and inquiry into topics of mutual interest by students and faculty scholars/researchers. A major portion of the program consists of the individual student and selected faculty members(s) jointly engaged in research and inquiry. Successful Ph.D. applicants tend to have high aptitude for research and inquiry and express interest in general topics which the faculty of the college are actively inquiring and researching.

Concentrations in the Ph.D. in Curriculum and Instruction are:

Curriculum Studies

Literacy Education

Mathematics Education

Science Education

Program Specific Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application at the time of the admission application process or communicate with the advisor and school director there in after.

The two schools of the College of Education provide support for masters and doctoral degree programs. Faculty and staff work to deliver these programs by providing campus-based courses, courses taught on-site at different locations in Wyoming, courses taught online, and courses taught in hybrid formats.

Certificate

School District Superintendent Certificate

To help equip you for the diverse responsibilities of a superintendency, the UW School District Superintendent Certificate program combines a robust curriculum of educational leadership courses with an internship in two districts, so you acquire the executive background and operational skills you'll need to lead in rural or urban school districts.

Required Courses

Core Educational Leadership Courses (26 Credit Hours)

- EDAD 5580 - Supervised Internship in Educational Administration Credits: 1-8
- EDAD 5650 - Educational Leader as Communicator Credits: 3
- EDAD 5700 - Educational Leader For Instruction Credits: 3
- EDAD 5720 - Educational Leader as Change Agent Credits: 3
- EDAD 5750 - Educational Leader for the Board and Community Credits: 3

- EDAD 5800 - Educational Leader as Resource Manager Credits: 3
- EDAD 5850 - Educational Leader as Direction Setter Credits: 3
- EDAD 5815 - Advanced School Law Credits: 3
- One Elective Course (3 Cr hrs)) 5000 level course of the student's choice that may be earned in HIED 5630 , EDCI 5665 , or certain courses in LDTE, check with your advisor if you have questions.

Additional Information:

As a school district's chief executive officer, you will serve a wide variety of roles from representing your district in public to working with district principals and the school board to foster student success.

The program meets the requirements of the Wyoming Professional Teaching Standards Board for the district superintendent endorsement as well as the superintendency standards of the National Educational Leadership district level standards as approved by the National Policy Board for Educational Administration (NPBEA).

School of Counseling, Leadership, Advocacy, and Design

332 Education Building, (307) 766-2366
and
316 Education Building, (307) 766-5649
Web site: www.uwyo.edu/clad
School Director: Courtney McKim

The School of Graduate Studies in Education includes the following program areas: Counseling, Educational Leadership, Higher Education Administration, Learning, Design and Technology, Research, and Special Education.

Program Areas

Counseling

Counselor education curricula experiences concentrate on the integration of helping skills, theory and practice. The programs utilize a personalized, developmentally oriented

focus and prepare professional counselors for entry into school and mental health settings.

The undergraduate counseling courses are designed to achieve the following objectives:

- enhance self-awareness
- facilitate effective relationship skills
- increase leadership knowledge and skills
- assist learners in maximizing their potential

Graduate Study

Counselor education offers a two-year (61- 65 semester hours) master's degree program for practice in schools, colleges, universities, and community agencies, as well as private practice. The Council for Accreditation of Counseling and Related Educational Programs (CACREP), the national accrediting body recognized by the Council for Higher Education Accreditation, has conferred accreditation to the following M.S. specializations in counseling: school counseling and mental health counseling. The Ph.D. program in Counselor Education and Supervision is also CACREP accredited. Some courses are offered for undergraduates interested in school counseling, group work, leadership, and student affairs work. Undergraduates interested in preparing for entry into graduate work in counseling are invited to consult with program faculty prior to graduation. Program information is available on the Web site.

Degrees Offered

M.S. in Counseling, Option: Community Mental Health Counseling
M.S. in Counseling, Option: School Counseling
Ph.D. in Counselor Education and Supervision

Program Specific Admission Requirements

For master's applicants:

- Summary of academic background
- Personal statement
- Three letters of recommendation
- Current professional resume
- Transcripts

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years

In order to be considered for admission to the master's program, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For doctoral applicants:

- Transcripts

- Three letters of recommendation

- Personal self-statement

- Current academic resume

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years

In order to be considered for admission to the doctoral program, applicants must meet the following minimum requirements:

- Master's degree in Counseling

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

Program Specific Degree Requirements

Professional Master's Program

Minimum requirements:

- Same for all options

- 61 hours of graduate credit to include 40 hours of core courses and 21 hours of graduate coursework specific to chosen option

- Culminating internship activity guided by faculty advisor

- Students complete the CAPP program in lieu of a program of study

Master's Degree in Counseling

At the completion of the Master's degree in Counseling students will demonstrate the following learner outcomes:

- Professional Competence & Academic Preparation for Licensed Professional Counselor (LPC): Students will demonstrate academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

- Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor.

- Professional Identity: Students will develop a professional identity as a professional counselor including the areas of advocacy, leadership, social justice, and promoting caring communities.

- Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals.

Doctor of Philosophy in Counselor Education and Supervision

Doctoral students are required to have completed a minimum of a 48-hour Master's degree from a program of study equivalent to a CACREP accredited Masters program in Counselor Education. These requirements are based upon the 2016 CACREP Standards.

Ph.D. in Counselor Education & Supervision

Doctoral students in Counselor Education & Supervision will demonstrate the following learner outcomes.

- Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals and academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

- Professional Licensure: Students will obtain professional licensure as a Licensed Professional Counselor (LPC) in the state of Wyoming and/or develop a plan to obtain licensure for the state in which they intend to relocate upon graduation.

- Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor, supervisor and educator including the areas of advocacy, leadership, social justice, and promoting caring communities.

- Research & Scholarship: Students will develop a professional identity as an academic researcher by demonstrating a clear and active research agenda that includes a plan of action for professional presentations and manuscripts.

- Professional Development: Students will develop a clear and diligent plan to becoming a skilled, ethically competent counselor educator. -

Program Specific Graduate Assistantships

Assistantships are usually available for doctoral students. Master's students sometimes qualify for assistantships. Please contact the program at (307) 766-2366 for assistantship opportunities, and see school web site.

Educational Leadership

The curriculum in educational leadership is designed to prepare graduate students for positions as superintendents, principals, and other roles in both public and private organizations. Those in leadership perform duties of a specialized nature and this program provides sufficient breadth to give candidates for advanced degrees ample opportunity to develop essential competencies.

Degrees and Certificates Offered

Students who major in education with an option in educational leadership may choose one of the following certificate or degree programs: Principal Certificate program for eligibility of a K-12 Principal Certificate endorsement, School District Superintendent Certificate, Master of Arts in Education, Doctor of Education.

Program Specific Admission Requirements

For principal certificate applicants:

- Letter of intent
- Current resume
- Copy of current teaching certificate
- Transcripts
- Principal program application form
- Superintendent approval form

- Three letters of recommendation, with two of the letters from someone in a related supervisory role to the candidate.

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

- Master's degree in an education-related field from an accredited institution with a minimum GPA of 3.000 on 4.000 scale.

- Three years of K-12 teaching experience.

For master's applicants:

- Letter of intent

- Current resume

- Copy of current teaching certificate

- Transcripts

- Principal program application form

- Superintendent approval form

- Three letters of recommendation, with two of the letters from someone in a related supervisory role to the candidate

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

- Three years of K-12 teaching experience.

For superintendent certificate applicants:

- Application letter of intent that explains that candidate's interest and potential in pursuing an advanced degree in district level leadership.

- Current CV or academic resume

- Three letters of recommendation with two of the letters from someone in a related supervisory role to the candidate.

- Transcripts

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

- Master's degree for an accredited institution (30 credits of applicable coursework) with a minimum GPA of 3.000 or a 4.000 scale.

- Two years of K-12 educational leadership experience.

For EdD applicants:

- Application letter of intent that explains that candidate's interest and potential in pursuing an advanced degree in district level leadership.

- Current CV or academic resume

- Transcripts

- Three letters of recommendation with two of the letters from someone in a related supervisory role to the candidate

- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing preferred, although there is a possible pathway to the EdD if a candidate is initially admitted to the superintendent certificate program.

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale.

- Master's degree for an accredited institution (30 credits of applicable coursework) with a minimum GPA of 3.000 or a 4.000 scale.

- Two years of K-12 educational leadership experience.

Learner Outcomes

2018 NELP District Standards

- NELP Standard 1: Mission, Vision, and Improvement: Collaboratively lead, design, and implement a district mission, vision, and process for continuous improvement that reflects a core set of values and priorities that include data use, technology, values, equity, diversity, digital citizenship, and community.

- NELP District Standard 2: Ethics and Professional Norms: Advocate for ethical decisions and cultivate professional norms and culture

- NELP District Standard 3: Equity, Inclusiveness, and Cultural Responsiveness: Develop and maintain a supportive, equitable, culturally responsive, and inclusive district culture.

- NELP District Standard 4: Learning and Instruction: Evaluate, design, cultivate, and implement coherent systems of curriculum, instruction, supports, assessment, and instructional leadership.

- NELP District Standard 5: Community and External Leadership: Understand and engage families, communities, and other constituents in the work of schools and the district and to advocate for district, student, and community needs.

- NELP District Standard 6: Operations and Management: Develop, monitor, evaluate, and manage district systems for operations, resources, technology, and human capital management.

- NELP District Standard 7: Policy Governance and Advocacy: Cultivate relationships, lead collaborative decision making and governance, and represent and advocate for district needs in broader policy conversations.

- NELP District Standard 8: Internship: Successfully complete an internship under the supervision of knowledgeable, expert practitioners that engages candidates in multiple and diverse district settings and provides candidates with coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and

skills identified in NELP Standards 1-7 in ways that approximate the full range of responsibilities required of district-level leaders and enable them to promote the current and future success and well-being of each student and adult in their district.

2018 NELP Building Standards

- NELP Building-Level Standard 1: Mission, Vision, and Improvement: Collaboratively lead, design, and implement a school mission, vision, and process for continuous improvement that reflects a core set of values and priorities that include data, technology, equity, diversity, digital citizenship, and community.

- NELP Building-Level Standard 2: Ethics and Professional Norms: Understand and demonstrate the capacity to advocate for ethical decisions and cultivate and enact professional norms.

- NELP Building-Level Standard 3: Equity, Inclusiveness, and Cultural Responsiveness: Develop and maintain a supportive, equitable, culturally responsive, and inclusive school culture.

- NELP Building-Level Standard 4: Learning and Instruction: Evaluate, develop, and implement coherent systems of curriculum, instruction, data systems, supports, and assessment.

- NELP Building-Level Standard 5: Community and External Leadership: Engage families, community, and school personnel in order to strengthen student learning, support school improvement, and advocate for the needs of their school and community.

- NELP Building-Level Standard 6: Operations and Management: Improve management, communication, technology, school-level governance, and operation systems; to develop and improve data-informed and equitable school resource plans; and to apply laws, policies, and regulations.

- NELP Building-Level Standard 7: Building Professional Capacity: Build the school's professional capacity, engage staff in the development of a collaborative professional culture, and improve systems of staff supervision, evaluation, support, and professional learning.

- NELP Building-Level Standard 8: Internship: Successfully complete an internship under the supervision of knowledgeable, expert practitioners that engages candidates in multiple and diverse school settings and provides candidates with coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and skills identified in NELP standards 1-7 in

ways that approximate the full range of responsibilities required of building-level leaders and enable them to promote the current and future success and well-being of each student and adult in their school.

Educational Research

The educational research faculty offer eleven courses on a regular basis in educational research. These courses are open to graduate students throughout the college and the university. In addition, we offer two minors in educational research, one is qualitative research methods and one in quantitative research methods. Students currently enrolled in any UW master's or doctoral program are eligible for these minors. Both minors require students to complete 16 credit hours, and a co-teaching experience in educational research.

Learner Outcomes

The goals of the educational research courses in the College of Education include developing the necessary skills, concepts, and understanding of research methodology to evaluate, use, and conduct research in a student's specific discipline. This goal requires the ability to do the following:

- In a research study, critique the following the research problem and hypothesis; general design to ensure that correct conclusions are possible from the statistical analysis; statistical analysis procedures to establish their valid use in the study; reliability and validity of instruments used to collect data; and conclusions and interpretations to insure appropriateness of each.

- Develop a problem appropriate for research. Examine a cross section of the current literature on the topic, placing the research problem within the context of the field.

- Demonstrate knowledge of the reference sources available in a research library; know how and when to use available resources.

- Compare and contrast research designs and methods and be able to identify examples, advantages, and disadvantages of each.

- Be able to use statistics to describe a sample and make inferences.

- Understand, design, and analyze results of various types of quantitative, qualitative, and mixed method research studies.

- Understand the principles of measurement as they apply to specific studies.

Learning, Design, and Technology

The curriculum in Learning, Design, and Technology is designed to assist professionals in effectively developing, implementing, and evaluating systems, tools, strategies, and environments that enhance learning. Graduates from the program secure employment in PK-12 classrooms; school media and technology centers, and school district administrative offices; public, corporate, and government centers and training agencies; college and university faculty and administrative positions; design and development labs; product support teams; and consulting firms.

Degrees and Certificates Offered

Students who major in education with a concentration in Learning, Design, and Technology may choose one of the following certificate or degree programs: Online Instruction Certificate program, Master of Science in Education (M.S.), or Doctor of Education (Ed.D.). The program Web site (http://www.uwyo.edu/clad/) provides additional information.

Program Specific Admission Requirements

For certificate applicants:

- Personal Statement
- Transcripts
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For Master's applicants:

- Personal Statement
- Transcripts
- Three letters of recommendation

- Current academic Vitae or resume

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For Doctor of Educationapplicants:

- Personal statement

- Transcripts

- Three letters of recommendation

- Current academic Vitae or resume

- Demonstration of ability to do graduate work. Submit on of the following:

- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing

- Academic Portfolio

- Published Writing

- Other artifact (i.e. thesis, software, curriculum)

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

Learner Outcomes

Foundational Knowledge in Learning, Design, and Technology

- Describe complex concepts and relationships within the field of Learning, Design, and Technology through relevant principles, theories, and frameworks from multiple perspectives.

- Analyze diverse learner and instructional needs.

- Evaluate impact of pedagogies/andragogies on learning outcomes.

- Create learning experience designs by integrating and applying appropriate learning theories, design strategies, and learning technologies.

- Design and support rigorous, relevant, equitable and inclusive learning experiences and environments.

Leadership & Innovation

- Explore emerging technologies and their potential applications in learning.

- Analyze project management principles in relation to learning experience design case studies and technology integration plans.

- Develop Learning, Design, and Technology leadership and project management skills.

- Build professional capacity and agency needed to enable and sustain change.

Research

- Read and analyze research relevant to education and technology.

- Design and conduct rigorous research studies.

Creativity

- Explain the nature of design practices and 'designerly thinking' from conceptual and applied perspectives.

- Explore roles of technology in creativity research and practice.

- Apply creative practices in teaching, learning, and research.

- Acquire a creative mindset.

- Cultivate a strong aptitude for creative problem-solving.

Technology

- Integrate tools across disciplines and contexts.
- Analyze digital design system processes and strategies for potential applications in multimodal learning and instruction.
- Evaluate the quality, accessibility, and effectiveness of current and emergent technology.
- Develop digital pedagogies/andragogies.

Higher Education Administration

The Higher Education Administration program serves the formal academic leadership development needs of persons aspiring to become leaders in higher education institutions. Adult learning, rural access to continuing education, workforce training leadership approaches, change management, and institutional operations are just some of the issues you'll explore in UW's online higher education administration master's, doctoral, and certificate programs. We recognize that the pursuit of an online certificate or degree requires just as much student support as that of a traditional on-campus student. That's why we provide the same student services for those who are on-campus and those who are pursuing their degree online. Our HIED degree programs in higher education administration at the University of Wyoming balances theory with practice to give you the knowledge and skills you need to enter the field or advance at your current institution. Most importantly, you will gain an understanding of where you can make a difference as a leader in the vast field of post-secondary education. By the time you complete your program, you will be ready to level up your career and take your place as a skilled administrator in higher education, government or the nonprofit sector.

Degree and Certificates Offered

Education, M.A., Concentration in Higher Education Administration

Education, Ed.D., Concentration in Higher Education Administration

Community College Leadership Certificate

For certificate applicants:

- Application letter
- Transcripts

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Bachelor's and Master's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

For master's applicants:

- Transcripts
- Three letters of recommendation
- Personal statement
- Current academic resume

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for full admission, applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale. Master's applicants under the minimum 3.000 GPA may in limited cases be eligible for probationary admission status. Please contact HIED faculty for more information.

For EdD applicants:

- Transcripts
- Three letters of recommendation
- Personal statement
- Current academic resume

- GRE scores within the last five years (both official and unofficial); minimum scores are 151 Verbal, 153 Quantitative Reasoning, and 4.0 Analytical Writing

- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Minimum of 3 years of full-time experience in higher education or a closely related field.

- Bachelor's and Master's degree from a regionally accredited institution with a minimum GPA of 3.000 on 4.000 scale

Special Education

The graduate special education program is designed to prepare teachers to work with students with varied learning and behavior needs. Students in this program earn a Master of Arts in education with an emphasis in special education. Graduates are eligible for K-12 special education generalist licensure through the Wyoming Professional Teaching Standards Board.

Program Specific Admission Requirements

- Current resume including:

- Educational experiences

- Work experiences

- Activities/honors

- Other relevant information

- Transcripts

- Three letters of recommendation

- Professional Writing Sample including:

- A description of your professional goals

- An explanation of your commitment to Special Education
- An explanation of your philosophy of education
- An explanation of how this Special Education program fits your goal
- Copy of current Wyoming teaching certificate, evidence of certificate application, or evidence of district sponsorship.
- Signed Memo of Understanding
- International, non-native English speaking applicants: TOEFL scores of at least 80 for the online exam (with at least 20 on each subset) or 6.5 on the IELTS (minimum of 6 in each subset; scores must be within at least two years. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency.

To be considered for admission, all applicants must meet the following minimum requirements:

- Bachelor's degree from a regionally accredited institution with a minimum GPA of 3.25 on 4.00 scale

Learner Outcomes

Upon completion of the Master of Arts program in Special Education, the candidates will demonstrate their knowledge and skills in:

- Engaging in Professional Learning and Practice within Ethical Guidelines. Special education professionals practice within ethical and legal guidelines; engage in ongoing self-reflection to design and implement professional learning activities; and advocate for improved outcomes for individuals with exceptionalities and their families while considering their social, cultural, and linguistic diversity.
- Understanding and Addressing Each Individual's Developmental and Learning Needs. Special education professionals use their understanding of human growth and development; multiple influences on development; individual differences; diversity, including exceptionalities; and families and communities to plan and implement inclusive learning environments and experiences that provide individuals with exceptionalities high-quality learning experiences reflective of each individual's strengths and needs.
- Demonstrating Subject Matter Content and Specialized Curricular Knowledge. Special education professionals apply

their understanding of the academic subject matter content of the general curriculum and specialized curricula to inform their programmatic and instructional decisions for learners with exceptionalities.

- Using Assessment to Understand the Learner and the Learning Environment for Data-Based Decision Making. Special education professionals assess students' learning, behavior, and the classroom environment to evaluate and support classroom and school-based problem-solving systems of intervention and instruction. Special education professionals evaluate students to determine their strengths and needs, contribute to students' eligibility determination, communicate students' progress, inform short and long-term instructional planning, and make ongoing adjustments to instruction using technology as appropriate.

- Using Effective Instruction to Support Learning. Special education professionals use knowledge of individuals' development, learning needs and assessment data to inform decisions about effective instruction. Special education professionals use explicit instructional strategies; employ strategies to promote active engagement and increased motivation to individualize instruction to support each individual. Special education professionals use whole group instruction, flexible grouping, small group instruction, and individual instruction. Special education professionals teach individuals to use meta-/cognitive strategies to support and self-regulate learning.

- Supporting Social, Emotional, and Behavioral Growth. Special education professionals create and contribute to safe, respectful, and productive learning environments for individuals with exceptionalities through the use of effective routines and procedures and use a range of preventive and responsive practices to support social, emotional and educational well being. They follow ethical and legal guidelines and work collaboratively with families and other professionals to conduct behavioral assessments for intervention and program development.

- Collaborating with Team Members. Special education professionals apply team processes and communication strategies to collaborate in a culturally responsive manner with families, paraprofessionals, and other professionals within the school, other educational settings, and the community to lead meetings, plan programs, and access services for individuals with exceptionalities and their families.

Science & Mathematics Teaching Center

The Science and Mathematics Teaching Center (SMTC) was established in 1970 and is
science, mathematics and technology education. As part of the Office of Graduate Edu
SMTC, in cooperation with the Wyoming Department of Education (WDE) and the Pr
Board (PTSB), serves as a resource and professional development center for the state.
transdisciplinary graduate degree programs with multiple degree concentrations, certifi
options. All of the programs emphasize both strong content knowledge and instruction
for the SMTC is comprised of include faculty from the Colleges of Agriculture and Na
Science, Education, and Engineering and Applied Science, and the Haub School of Env

The SMTC provides extensive off-campus professional development that serves throug
teachers, students, administrators, school districts and communities. SMTC in-service
workshops, institutes, and conferences are designed collaboratively to improve science
Wyoming.

Graduate

Natural Science M.S. Middle-Level Math Concentration (MMA)

This concentration leads to a middle level math endorsement provided by the Wyoming PTSB. Teachers must have two years of teaching experience.

SMTC Student Learner Outcomes

Upon successful completion of the MS degree program in Natural Science, a student will be able to:

• Engage in teacher research to transform STEM instruction:

- Design and implement a research project that asks and answers a question using appropriate materials, concepts and methods, and ethical practices, and
- Effectively communicate all aspects of the research project in both oral and written forms.

• Use professional and academic standards to ensure high-quality interdisciplinary instruction (i.e., place-based, culturally relevant, and/or social justice pedagogy) to maximize learning for all students.

• Engage in mathematical and/or scientific discourse and scientific thinking as active participants in communities of practice.

Program Specific Admission Requirements

For the MS-Natural Science Master's Degrees (with concentrations in MSC and MMA) and the MST:

Two years of teaching experience and a valid teaching license required for MSC and MMA

Application Fee

Official Transcripts from all Institutions attended and Bachelor Degree conferring institution

3.0 undergraduate grade point average; provisional admission with a lesser GPA only with consent from Academic Affairs

GRE (minimum 292 score) or an Alternative Portfolio including evidence that supports the potential success of the candidate as a graduate student and a document that interprets the evidence (These items are not required of applicants who hold a prior master's degree)

Writing Sample in response to three provided questions

Resume

Three Letters of Recommendation including a letter from the teacher's principal or an employers and two other colleagues.

Graduate Assistantships and Scholarships

Graduate Assistantships and Scholarships

The SMTC has scholarships and graduate assistantships available for graduates accepted for the above Master's degree programs. Scholarships cover partial to full tuition for current Wyoming teachers for the MMA and MSC programs. More information upon admission and acceptance.

For the Master of Science in Natural Science Master's Degrees

Plan B (non-thesis)

- 30 Credit Hours of graduate-level coursework is required in all of the programs. This includes 24 credit hours in required coursework depending on the program plus 6 credit

hours of additional coursework that may include a research class, Plan B independent research and an elective.

- The Middle Level Science (MSC) concentration is a 3-year program, for the required coursework, in the summers only on UW's main campus. Courses are offered on a 3-year rotation cycle; students may enter the program in any year.
- The Middle Level Math (MMA) concentration is a 2-year program with classes offered virtually in the fall and spring and in-person on the main campus in the summer, for the required courses. Students may enter the program in any semester.
- The Natural Science Education (NED) concentration is a 2-year program with classes offered in the graduate program at the Teton Science Schools in Jackson, WY, in year 1, and additional classes offered at the UW main campus in year 2.
- The MST (Master's of Science in Teaching) and the MS-Natural Science Master's Degrees are Main campus degrees. They are self-directed master's degree programs designed individually based on the student's interests and needs.
- All students must complete and defend a Plan B research project.
- A Plan A (thesis) may be completed with an extra year of research.

NOTE: Middle-Level Science & Middle-Level Mathematics*; 24 credit hours in the core courses are required for institutional recommendation for WY middle-level endorsement from the Professional Teaching Standards Board, PTSB.*

NOTE: **NASC 5810 Middle-Level Science and Mathematics 3 credit hour course Practica (*required course for teachers without previous coursework or experience teaching middle-level students. Offered spring semester in even years only).

Core Courses

Students can start the program during any semester. The program is on a two-year rotation where course offerings alternate depending on whether it's an even or an odd year.

Odd Number Year Program Requirements (2025, 2027)

Spring

- NASC 5205 - Methods of Teaching Middle-Level Mathematics, MMA Credits: 3

Summer (in Laramie)

- NASC 5170 - Connecting Geometry with Problem-Solving for the Middle-Level Learner, MMA Credits: 3

- NASC 5225 - Assessment for Middle-Level Mathematics, MMA Credits: 3

Fall

- NASC 5190 - Mathematics of Change and the Middle-Level Learner, MMA Credits: 3

Even Number Year Program Requirements (2024, 2026)

Spring

- NASC 5140 - Numbers, Operations, and Patterns for the Middle-Level Learner, MMA Credits: 3

Summer (in Laramie)

- NASC 5215 - Using Technology for Middle-Level Mathematics Credits: 3
- NASC 5185 - Analysis of Data in the Media for the Middle-Level Learner, MMA Credits: 3

Fall

- NASC 5160 - Social and Historical Issues in Mathematics and the Middle-Level Learner, MMA Credits: 3

Suggested Courses

- NASC 5670 - Research Methodology Credits: 4 (offered synchronously on-line during the fall semesters after school hours)
- NASC 5810 - ML Science & Math Practicum Credits: 3 (required for teachers who are not currently teaching middle level science/math; 3 credits) is offered online synchronously in the spring semester of even years (2024, 2026, 2028, etc.)

Natural Science M.S. Middle-Level Science Concentration (MSC)

This concentration leads to a middle level science endorsement provided by the Wyoming PTSB. Teachers must have two years of teaching experience.

SMTC Student Learner Outcomes

Upon successful completion of the MS degree program in Natural Science, a student will be able to:

• Engage in teacher research to transform STEM instruction:

- Design and implement a research project that asks and answers a question using appropriate materials, concepts and methods, and ethical practices, and
- Effectively communicate all aspects of the research project in both oral and written forms.

• Use professional and academic standards to ensure high-quality interdisciplinary instruction (i.e., place-based, culturally relevant, and/or social justice pedagogy) to maximize learning for all students.

• Engage in mathematical and/or scientific discourse and scientific thinking as active participants in communities of practice.

Program Specific Admission Requirements

For the MS-Natural Science Master's Degrees (with concentrations in MSC and MMA) and the MST:

Two years of teaching experience and a valid teaching license (required for MSC and MMA; may be waived for MST and MS-Natural Science)

Application Fee

Official Transcripts from all Institutions attended and Bachelor Degree conferring institution

3.0 undergraduate grade point average; provisional admission with a lesser GPA only with consent from Academic Affairs

GRE (minimum 292 score) or an Alternative Portfolio including evidence that supports the potential success of the candidate as a graduate student and a document that interprets the evidence (These items are not required of applicants who hold a prior master's degree)

Writing Sample in response to three provided questions

Resume

Three Letters of Recommendation including a letter from the teacher's principal or an employers and two other colleagues.

Graduate Assistantships and Scholarships

Graduate Assistantships and Scholarships

The SMTC often has scholarships and graduate assistantships available for graduates accepted for the above Master's degree programs. More information upon admission and acceptance.

For the Master of Science in Natural Science Master's Degrees

Plan B (non-thesis)

- 30 Credit Hours of graduate-level coursework is required in all of the programs. This includes 24 credit hours in required coursework depending on the program plus 6 credit hours of additional coursework that may include a research class, Plan B independent research and an elective.
- The Middle Level Science (MSC) concentration is a 3-year program, for the required coursework, in the summers only on UW's main campus. Courses are offered on a 3-year rotation cycle; students may enter the program in any year.
- The Middle Level Math (MMA) concentration is a 2-year program with classes offered virtually in the fall and spring and in-person on the main campus in the summer, for the required courses. Students may enter the program in any semester.
- The Natural Science Education (NED) concentration is a 2-year program with classes offered in the graduate program at the Teton Science Schools in Jackson, WY, in year 1, and additional classes offered at the UW main campus in year 2.
- The MST (Master's of Science in Teaching) and the MS-Natural Science Master's Degrees are Main campus degrees. They are self-directed master's degree programs designed individually based on the student's interests and needs.
- All students must complete and defend a Plan B research project.
- A Plan A (thesis) may be completed with an extra year of research.

NOTE: Middle-Level Science & Middle-Level Mathematics*; 24 credit hours in the core courses are required for institutional recommendation for WY middle-level endorsement from the Professional Teaching Standards Board, PTSB.*

NOTE: **NASC 5810 Middle-Level Science and Mathematics 3 credit hour course Practica (*required course for teachers without previous coursework or experience teaching middle-level students. Offered spring semester in even years only).

Core Courses

The MSC Core Courses are only offered in the summer. The program is on a three-year rotation where four weeks of coursework are offered in June. Courses use interdisciplinary and relevant problems drawn from physical, life, and Earth sciences to explore instructional strategies and research.

Physical Sciences Rotation (2024, 2027)

- EE 4800 - Problems in _____ Credits: 1-6
- NASC 5110 - Physical Science in Global Context, MSC Credits: 3
- NASC 5510 - Integrated Instructional Strategies, MSC Credits: 2
- NASC 5600 - Mathematics and Statistics in Science Teaching, MSC Credits: 2

Eath Sciences Rotation (2025, 2028)

- ASTR 4000 - Astronomy for Teachers Credits: 1-5
  (2 credits required)
- NASC 5120 - Earth Science in Global Context, MSC Credits: 3
- NASC 5300 - Classroom Assessment in Middle-level Science, MSC Credits: 2
- NASC 5400 - Spatial Data Instructional Technology Credits: 1

Life Sciences Rotation (2026, 2029)

- BOT 4790 - Special Topics in Ecology Credits: 1-3
- ENTO 5601 - Insects for Teachers: Collection and Identification of Insects Credits: 1
- NASC 5130 - Life Science in Global Context, MSC Credits: 3
- NASC 5660 - Standards, Pedagogy and Research Credits: 2
- SOC 4890 - Special Topics in Credits: 1-3

Suggested Courses

- NASC 5670 - Research Methodology Credits: 4

(offered synchronously on-line during the fall semesters after school hours)

- NASC 5810 - ML Science & Math Practicum Credits: 3 (required for teachers who are not currently teaching middle level science/math; 3 credits) is offered online synchronously in the spring semester of even years (2024, 2026, 2028, etc.)

Natural Science M.S. Natural Science Education Concentration (NED)

This M.S. in Natural Science Education is for those interested in gaining outdoor teaching experience with a focus on place-based education & ecology. Limited to students accepted into the Teton Science Schools Grad Program.

Overview

A two-year program - coursework begins in the fall at the Teton Science Schools (TSS) for Year 1 and Year 2 starts the following fall on the University of Wyoming campus. The program includes:

- 15 credits through the TSS Graduate Program (Year 1)
- 15 credits from the University of Wyoming (Year 2)
- Completion of a Plan B project (Year 2)

Year 1: Teton Science Schools

Core Courses:

Fall Semester:

- NASC 5625 - Place-Based Education-Teton Science School Credits: 3
- NASC 5630 - Teaching Practicum-Teton Science School Credits: 2-4 *
- NASC 5640 - Introduction to Field Science Teaching Credits: 3
- ZOO 5430 - Ecology of the Greater Yellowstone Ecosystem Credits: 3 *

Spring Semester

- ZOO 5405 - Winter Ecology of the Yellowstone Ecosystem Credits: 2
- ZOO 5420 - Ecological Inquiry Credits: 3 *

- EDCI 5790 - Learning Theories and Instructional Principles Credits: 3

Summer Semester:

- NASC 5620 - Advanced Elements of Field Ecology Course Design, NED Credits: 5

*Credits apply to the UW Master's degree in Natural Science

Year 2: University of Wyoming

Core Courses:

- NASC 5650 - Place-Based Learning Credits: 3
- 9 additional graduate credits at the 4000 level or above
- Plan B (non-thesis) project

One graduate level research course (3+ credits, examples below)

- NASC 5670 - Research Methodology Credits: 4
- EDRE 5550 - Action Research Credits: 3
- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5640 - Introduction to Qualitative Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3

Recommended Courses:

- FCSC 5101 - Special Topics in Family and Consumer Sciences Credits: 1-3
- NASC 5961 - Plan B Project Credits: 1-4

Required ENR Courses (for optional concurrent major):

- ENR 5100 - Foundations of ENRS Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

Application Deadlines:

Applications are due February 1st by 11:59 p.m. or 5:00 p.m. the following Monday if February 1st falls on a weekend.

Scholarships and graduate assistantships are available as funding allows. Contact the SMTC for information.

This program is a Gainful Employment program.

Department of Atmospheric Science

6034 Engineering Building, (307) 766-3245
FAX: (307)766-2635
Web site: www.atmos.uwyo.edu
Department Head: Jeffrey French

Professors:

BART GEERTS, Licenciaat Physical Geography Katholieke University, Belgium 1984; Engineer in Irrigation Sciences 1986; Ph.D. University of Washington 1992; Professor of Atmospheric Science 2011, 1999.

Associate Professor:

JEFFREY R. FRENCH, B.S. South Dakota School of Mines 1992; M.S. 1994; Ph.D. University of Wyoming 1998; Associate Professor of Atmospheric Science 2021, 2015.

SHANE MURPHY, B.S. University of Colorado 2000; Ph.D. California Institute of Technology 2009; Associate Professor of Atmospheric Science 2019, 2011.

Assistant Professors:

DANA CAULTON, B.S. Indiana University 2010; Ph.D. Purdue University 2014; Assistant Professor of Atmospheric Science 2018.

DANIEL T. MCCOY, B.S. New Mexico Institute of Mining and Technology, 2010; PhD. University of Washington 2016. Assistant Professor of Atmospheric Science 2020.

STEFAN RAHIMI, B.S. University of Oklahoma 2010; M.S. 2014; PhD. University of Wyoming 2019; Assistant Professor of Atmospheric Science 2023.

MASANORI SAITO, B.S. Tohoku University, Japan 2012; M.S. 2014; Ph.D. 2017; Assistant Professor of Atmospheric Science 2020.

Adjunct Professors:

Professors Emeritus:

Terry L. Deshler, Robert D. Kelly, John D. Marwitz, Derek C. Montague, Thomas R. Parish, Alfred R. Rodi, Jefferson R. Snider, Gabor Vali

Atmospheric Science is a rapidly evolving discipline aimed at better understanding the earth's atmosphere and sits at the nexus between meteorology, physics, chemistry, biology, engineering, mathematics and computer science. The entire development of atmospheric science demonstrates how progress can result from the application of knowledge developed in the basic sciences to a complex environmental system. Concurrently, atmospheric scientists develop many observational and analytical techniques unique to the study of the atmosphere. Over the past decades, atmospheric science developed vigorously, stimulated by the availability of the latest satellite, ground-based and aircraft observations, as well as the availability of large computers for numerical simulations of atmospheric processes. At the same time, the importance of the atmosphere as a crucial resource in the welfare and survival of humankind is being recognized, as knowledge about how the atmosphere behaves is obtained.

The Department of Atmospheric Science offers graduate programs leading to the M.S. and Ph.D. degrees.

In these graduate programs, great emphasis is placed on the active research involvement of students both during the academic year and during the summer months. The low student to faculty ratio in the department ensures an atmosphere of cooperation among students, faculty and staff. Student theses and dissertations form integral parts of the department's research productivity and usually lead to articles published in the refereed literature.

Research interests in the department center around cloud and precipitation physics, cloud and mesoscale atmospheric dynamics, boundary layer processes, tropospheric aerosols and atmospheric chemistry, climate change, instrumentation and air quality. These interests are reflected in the department's academic program, which has the breadth and depth necessary to give students a background for entering into many different types of employment upon graduation.

A number of unique research tools are available in the department. Prominent among these is the King Air research aircraft which carries extensive instrumentation and computer-directed data acquisition systems. A mobile lab for sampling near surface atmospheric gases and aerosols can be deployed across the United States. Excellent laboratory facilities are available in the department's spacious quarters. These laboratories focus on cloud physics, remote sensing, aerosol, and atmospheric chemistry. Well-equipped

electronic and mechanical construction and design facilities are conducive for work in instrument development. A wide range of computer facilities are available, including access to the NCAR/Wyoming Supercomputer Center(NWSC). The Department of Atmospheric Science is the lead user of the Wyoming allocation of the NWSC.

A prerequisite for admission to the graduate program is a bachelor's degree in meteorology, engineering, physics, chemistry, mathematics or a similar relevant discipline. Graduate assistantships are available by application to the department and are awarded on the basis of past record and promise for achievement.

For material containing further details on curriculum and research programs, write to the graduate admissions coordinator or visit the web site at www.uwyo.edu/atsc/.

Graduate Study

The Department of Atmospheric Science offers degree programs leading to the master of science and doctor of philosophy degrees. The department has strong research programs in the following areas: cloud physics and dynamics; tropospheric aerosols and clouds; greenhouse gases; air pollution and wildfires; boundary layer processes; remote sensing; and airborne instrumentation. The department's observational facilities are: 1) the King Air research aircraft (UWKA); 2) the Air Quality Mobile Lab and the Wyoming Air Quality Monitoring Lab; 3) the Wyoming Cloud Radar (WCR) and Wyoming Cloud Lidar (WCL) for the study of cloud structure and composition; and 4) the Keck Aerosol Laboratory. The UWKA, WCR, and WCL are designated Lower Atmospheric Observing Facilities by the National Science Foundation (NSF). Please refer to the departmental homepage at www.atmos.uwyo.edu for programmatic updates, or contact the department directly.

Program Specific Admission Requirements

Admission based on the university minimum requirements. Admissions are competitive.

Program Specific Graduate Assistantships

Assistantships are offered for both the M.S. and Ph.D. tracks.

Graduate

Atmospheric Science, M.S.

The Master of Science degree in Atmospheric Science prepares the recipient to work in fields related to meteorology, weather and forecasting, air quality, climate change and environmental regulation.

Program Specific Degree Requirements

Approval of research plan by the graduate committee

Colloquium and oral defense of M.S. thesis

Approval of M.S. thesis by the graduate committee

A minimum of 30 hours of acceptable graduate credit hours that includes at least:

- 26 hours of acceptable graduate coursework and
- 4 hours of thesis research

21 graduate credits must be earned in the Department of Atmopheric Science

Required Courses

These courses are required for the master's program.

- ATSC 5010 - Physical Meteorology I Credits: 4
- ATSC 5011 - Physical Meteorology II Credits: 4
- ATSC 5014 - Dynamic Meteorology Credits: 4
- ATSC 5016 - Synoptic Meteorology Credits: 4
- ATSC 5018 - Ethics and Research Methods Credits: 1

Atmospheric Science, Ph.D.

The Doctorate of Philosophy degree in Atmospheric Science prepares the recipient for a career in research studying the atmosphere. Graduates may work in academia, governmental laboratories and agencies, and private industry.

Program Specific Degree Requirements

Approval of research plan by the graduate committee

Successful completion of the Preliminary Examination

Colloquium and oral defense of the Ph.D. Dissertation

Approval of the Ph.D. dissertation by the graduate committee

A minimum of at least 72 hours of acceptable graduate credit hours that includes at least:

- 42 hours of acceptable graduate coursework and
- 10 hours of thesis or dissertation research

24 graduate credits must be earned in the Department of Atmospheric Science

Department of Chemical and Biomedical Engineering

4055 Engineering Building, (307) 766-2500
Web site: www.uwyo.edu/chemical
Department Head: SAMAN ARYANA

Professors:

VLADIMIR ALVARADO, B.Sc. Universidad Central de Venezuela 1987; M.S. Institut Francais du Pétrole 2002; Ph.D. University of Minnesota 1996; Professor of Chemical Engineering 2017, 2006.

DAVID M. BAGLEY, B.S. Colorado School of Mines 1984; M.S. Cornell University 1989; Ph.D. 1993; Professor of Chemical Engineering 2011, 2005.

DAVID A. BELL, B.S. University of Washington 1976; M.S. Rice University 1979; Ph.D. Colorado State University 1992; Professor of Chemical Engineering 2019, 1993.

JOSEPH HOLLES, B.S. Iowa State University 1990; M.E. University of Virginia 1998; Ph.D. 2000; Associate Professor of Chemical Engineering 2010.

JOHN OAKEY, B.S. The Pennsylvania State University 1997; M.S. Colorado School of Mines 1999; Ph.D. 2003; Professor of Chemical Engineering 2019, 2010.

MICHAEL V. PISHKO, B.S. University of Missouri-Columbia 1986; M.S. 1987; Ph.D. University of Texas at Austin 1992; Professor of Chemical Engineering 2015.

PATRICK JOHNSON, B.S. Lehigh University 1992; M.S. University of Virginia 1994; Ph.D. Columbia University

2004; Associate Professor of Chemical Engineering 2012,2006.

Associate Professors:

SAMAN ARYANA, B.S. University of Texas at Arlington 2003; M.S. 2006; Ph.D. Stanford University 2012; Assistant Professor of Chemical Engineering 2013.

KATIE DONGMEI LI-OAKEY, B.S. Shandong University of Technology 1994; M.S. Tianjin University 1997; M.S. University of Colorado at Boulder 1999; Ph.D. 2003; Associate Professor of Chemical Engineering 2018, 2011.

Associate Professor of Practice:

JOHN TATARKO JR., B. ChE, cum laude: 2008 Cleveland State University. MS ChE: 2010 Cleveland State University. MS EE: 2013 University of Louisville. PhD ChE: 2015 University of Louisville.

Assistant Professors:

KAREN WAWROUSEK, B.S. The College of St. Rose 2001; Ph.D. California Institute of Technology 2009; Assistant Professor of Chemical Engineering 2014.

Adjunct Professors:

John Ackerman
Morris Argyle
Youqing Shen
John Schabron

Professors Emeriti:

Chang Yul Cha
H. Gordon Harris
Henry W. Haynes

Chemical Engineering is one of the most versatile of the engineering programs. It prepares students for employment in many diverse fields, such as production of pharmaceuticals, polymers and plastics, semiconductors, heavy industrial chemicals, synthetic fuels, petrochemicals

and petroleum refining. Chemical engineers also work in biological engineering, environmental engineering, enhanced oil recovery, corrosion control, metallurgy and microelectronics. Undergraduate chemical engineering training has been found to be an excellent background for graduate work not only in engineering, but also in a number of other fields, including medicine, law, business, and the natural sciences.

The chemical engineering curriculum is based on a sound background in chemistry, mathematics, physics, and biology. The essentials of engineering are added to this foundation, including fluid dynamics and thermodynamics. In order to develop the individual's social consciousness and to broaden the student's educational background, an integrated program of study in the humanities and social sciences is included in the curriculum. Chemical engineering courses in multicomponent thermodynamics, transport phenomena, kinetics, process control and process design are concentrated in the junior and senior years. This program provides training for engineers to enter production, research, product and process development, process design, technical sales and engineering management positions. Training in chemical engineering equips the graduate to solve many of the problems facing society today: human health, energy shortages, synthetic fuels production, water and air pollution, toxic chemical control, and food production. Furthermore, our program prepares students interested in a career in medicine or the life sciences and is suitable for pre-medical and pre-dental students.

The department offers an 18-credit-hour block of approved technical electives. Students select an emphasis in Biological Engineering, Environmental Engineering, Materials Science and Engineering, Chemical Process Industry, Petroleum Engineering, Graduate School Preparation, and Pre-Medicine. Students can also pursue a concurrent major in Chemistry, minors in Physics, Chemistry, Math, Computer Science, Molecular Biology and Business. See department for details.

Chemical Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduate Study

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering. The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering, the Department of Petroleum Engineering, and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

Program Specific Admission Requirements

Admission Process and Requirements

Standard Admission

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

- A GPA of 3.000 (A = 4.000), or equivalent;
- A GRE score (there is no minimum GRE score requirement)
- For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree:
A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) or an IELTS score of 6.5.

Unofficial transcripts of all prior college-level coursework, test scores and recommendations from three references must be uploaded as parts of the application.

If admission is granted, then official transcripts, GRE and TOEFL scores are required.

Applications submitted by February 1 will be given priority consideration for the fall semester.

The application will not be processed until all the necessary documents have been uploaded.

Major

Chemical Engineering, B.S.

Chemical Engineering draws upon fundamentals of chemistry, physics, biology, and math to analyze and design processes. Chemical Engineers work in a variety of fields including the energy, medicine, food, microelectronics, biotechnology, environmental, and manufacturing industries. The B.S. in Chemical Engineering is accredited by ABET and provides a path to P.E. licensure.

Accreditation

The Chemical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Chemical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **124** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math and Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1050 - Advanced General Chemistry I Credits: 4
- OR CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1060 - Advanced General Chemistry II Credits: 4
- OR CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4507 - Physical Chemistry I Credits: 3
- LIFE 1010 - General Biology Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Computing

- COSC 1010 - Computational Thinking and Programming Credits: 3

Chemical Engineering

- CHE 1005 - Introduction to Chemical Engineering Credits: 1
- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 2060 - Chemical Engineering Computing Credits: 3
- CHE 2070 - Chemical Thermodynamics Credits: 3
- CHE 2080 - Chemical Engineering Fluid Mechanics Credits: 3
- CHE 3015 - Chemical Thermodynamics II Credits: 3
- CHE 3026 - Heat Transfer Credits: 3
- CHE 3028 - Mass Transfer Credits: 3
- CHE 3040 - Unit Operations Laboratory I Credits: 3
- CHE 4050 - Unit Operations Laboratory II Credits: 3
- CHE 4060 - Reaction Engineering Credits: 3
- CHE 4070 - Process Simulation & Economics Credits: 4
- CHE 4080 - Senior Design Credits: 4
- CHE 4090 - Process Dynamics and Control Credits: 3

Approved Technical Electives - 18 Credits

- See Advisor for a current list of approved technical electives.
- A minimum of 3 credits of the Technical electives must be Chemical Engineering coursework.

Additional Requirements/Program Information

- 48 Upper Division credits are required. This is fulfilled by required courses and approved technical electives.
- Chemical Engineering degree candidates must meet the academic requirements of the college and, in addition, must have a GPA of 2.000 in Chemical Engineering courses attempted at UW that are applied toward graduation for the B.S. degree from the department.
- Students must achieve a C or better in all chemical engineering courses serving as a prerequisite for another chemical engineering course.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Transfer Work

- All Wyoming Community College equivalent courses will be evaluated for acceptance into the CHE program.
- For upper-division coursework, no more than two CHE 3000+ courses can be transferred and applied to the CHE degree.
- CHE4070 and CHE4080 cannot be transferred to UW.
- All CHE transfer courses must be completed with a grade of C or better.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Minor

Biomedical Engineering Minor

Biomedical Engineering is an interdisciplinary field that combines principles of biology and medicine with engineering design to produce healthcare innovations. Biomedical engineers contribute to medical technologies in a variety of areas including diagnostics, therapeutics, imaging, bioinformatics, and rehabilitation.

Learning Outcomes:

A student who has completed the Biomedical Engineering Minor will have:

1. Experience and proficiency in applying principles of engineering, biology, human physiology, chemistry, calculus-based physics, differential equations, and statistics;

2. Experience and proficiency in solving biomedical engineering problems, including those associated with the interaction between living and nonliving systems;

3. Experience and proficiency in analyzing, modeling, designing, and realizing medical devices, systems, components, or processes;

4. Experience and proficiency in making measurements on and interpreting data from living systems;

5. An ability to identify, formulate, and solve complex biomedical engineering problems by applying principles of engineering, science, and mathematics.

6. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

7. An ability to communicate effectively with a range of audiences.

8. An ability to recognize ethical and professional responsibilities in medical and engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

9. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

10. An ability to design and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

11. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Biomedical Engineering is an interdisciplinary field that combines principles of biology and medicine with engineering design to produce healthcare innovations. Biomedical engineers contribute to medical technologies in a variety of areas including diagnostics, therapeutics, imaging, bioinformatics, and rehabilitation. Accordingly, biomedical engineers typically possess a broad biology background and strong engineering design and problem-solving principles. The Biomedical Engineering minor will prepare students studying engineering or the life sciences for careers in industries that develop technologies to advance medicine.

The following curriculum is accessible to students from any major degree program in the College of Engineering and Physical Science (CEPS), as well as students from other programs on campus. Tracks covering different the different engineering disciplines that comprise biomedical engineering are provided below. Students are encouraged to select a track that most closely aligns with their interests and preparation. A specialized, more comprehensive program of study is available for students with a particular interest in medical school preparation.

Coursework:

The minimum required coursework consists of 18 credits. Students must complete one of the tracks provided below, including all required courses listed within each track. Additional coursework may be chosen from the list of Approved Elective Coursework below. Approval by the Minor Coordinator is required for any substitutions or electives not appearing in the approved list below.

Chemical Engineering

Chemical Engineering draws upon the fundamentals of chemistry, physics, and biology to analyze and design processes. Chemical Engineers work in a variety of biomedical disciplines including pharmaceutical production, biomedical devices, tissue engineering, and medical sensing. The following coursework covers biological fundamentals and materials with a focus on process and device design.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4100 - Biochemical Engineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3

- CHE 4165 - Biomaterials Credits: 3

+ 6 Credits of approved coursework

Electrical Engineering

This track offers opportunities for those interested in applying electrical engineering to problems of environmental science, wildlife studies, biology, and medicine. Application areas include the use of telemetry for wildlife management, environmental monitoring, design and development of biological and medical instrumentation and clinical engineering.

- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- KIN 2040 - Human Anatomy Credits: 3

Mechanical Engineering

With a focus upon biomaterials and biomechanics, this track combines biology and physiology with mechanical engineering. This coursework helps students apply mechanical engineering principles to biological challenges including prosthetics, robotic surgery instruments, and medical device design.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- ME 4250 - Biomechanics of Movement Credits: 3

+ 3 Credits of approved coursework

Physical and Life Sciences

This track is encouraged for students **not** majoring in an engineering discipline or those who may be preparing for medical school*. Relying heavily upon advanced coursework from the life sciences, this track will provide students with an engineering perspective and design mindset. Substitutions may be made to customize the track to students' interests and preparation, but must be approved by the Minor Coordinator.

- MOLB 2240 - Medical Microbiology Credits: 4

- MOLB 3610 - Principles of Biochemistry Credits: 4
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4

*For students who are interested in medical school, please contact advisors at the College of Health Sciences Prehealth Advising Office (https://www.uwyo.edu/preprof/index.html).

Approved ElectiveCoursework:

The following approved courses may be counted in fulfillment of additional technical elective requirements within the discipline-specific track, but may not be substituted for required courses.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4100 - Biochemical Engineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- CHE 3900 - Undergraduate Research Credits: 1-6 (in an appropriate laboratory)
- CHE 4220 - Metabolic and Protein Engineering Credits: 3
- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3
- EE 4800 - Problems in _____ Credits: 1-6 Problems in Bioengineering
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4400 - Immunology Credits: 4
- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

- ZOO 4125 - Integrative Physiology Credits: 5

NOTE
CHE 3100 fulfills the LIFE 2021 & 3050 pre-requisite requirements for CHE 4100, 4160, and 4165. Alternatively, students may take the following in lieu of CHE 3100 as a pre-requisite: MICR 2021 Microbiology (4) and MOLB 3610 Principles of Biochemistry (4).

Process Control Minor

Process control engineers optimize processes and implement quality control systems in the manufacturing industry. They design, test, and oversee the implementation of new processes. Process control engineers are often employed at manufacturing plants that process chemicals, metals, and other materials.

Required Courses

- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 2090 - Practical Fundamentals of Process Control Credits: 2
- CHE 3090 - Applying Simulation to Dynamic Processes Credits: 1
- CHE 4092 - Controlling Process Systems Credits: 3
- CHE 4090 - Process Dynamics and Control Credits: 3

or

- EE 4620 - Automatic Control Systems Credits: 3

or

- EE 4621 - Honors Automatic Control Systems Credits: 3

Approved Elective Courses

At least 6 hours of approved elective courses are required for this minor.

- ES 2210 - Electric Circuit Analysis Credits: 3
- EE 2220 - Circuits and Signals Credits: 4
- EE 3220 - Signals And Systems Credits: 3
- ME 4020 - Design of Mechanical/Electronic Systems Credits: 3
- COSC 4450 - Computer Graphics Credits: 3
- COSC 4765 - Computer Security Credits: 3
- CHE 4972 - Internship in Process Control Engineering Credits: 1-6

Learning Outcomes

An engineer who has completed the Process Control and Instrumentation Minor will be able to examine an engineering process that requires automated control and provide a practical control design by:

- Identifying key performance and technical features of the process
- Specifying process variables to control to achieve desired process outcomes
- Identifying the appropriate manipulated variables to achieve control
- Selecting appropriate measurement instrumentation for process variables
- Specifying needed final control elements to effect change of manipulated variables
- Selecting an appropriate controller and control algorithm that achieves stable control
- Testing and tuning the control design in simulation
- Evaluating the control design against performance and economic objectives
- Understand key nomenclature and terms in process control
- Understand the difference between analog and digital components

Graduate

Chemical Engineering, M.S.

Graduate Study Guidelines

All incoming M.S. Plan A and M.S. Plan B students must have an adviser. The student is responsible for contacting faculty members in order to find an adviser.

All Chemical Engineering graduate students must take the following Chemical Engineering Core courses:

- CHE 5020 - Thermodynamics Credits: 3
- CHE 5010 - Transport Phenomena Credits: 3
- CHE 5030 - Reaction Kinetics Credits: 3
- CHE 5355 - Mathematical Methods in Chemical Engineering Credits: 3

Credit Hours

- Total (from above) Credits: 12
- CHE 5960 - Thesis Research Credits: 4
- Electives Credits: 14
- Total Credits: 30

Plan B (Non-Thesis)

The coursework requirements are the same as the M.S. Plan A requirements except that Thesis Research (CHE 5960) is not required. Plan B students take an additional 4 hours of elective course credits (a total of 30 hours required).

M.S. Plan B students must write a paper on a topic assigned by the adviser and present their work the their graduate committee. This paper must be submitted to the student's graduate committee for approval at least one week prior to the oral presentation.

M.S. Seminar Requirements

All chemical engineering graduate students must enroll in CHE 5890, Chemical Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Registered off-campus graduate students can be exempt from having to enroll in CHE 5890.

M.S. Thesis

All M.S. Plan A students must orally defend their thesis at a public final examination. At least two weeks before the examination, the student must provide each member of the graduate committee with a copy of the written M.S. thesis and provide the department an announcement of their defense for advertisement by bulletin board, e-mail, or other means. The results of the examination are reported on the Report of Final Examination form. Graduate committee members may request changes in the thesis, and they may postpone signing the form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Graduate Student Resources web site. This copy will be rejected if the format standards specified by the Thesis and Dissertation Format Guide are not met. This guide allows for a publication-ready format. If required by the department and/or committee, additional printed copies should be delivered to the University Store for binding. Students should consult with the adviser to determine if the adviser wants a copy of the thesis, dis¬sertation, or other research documentation.

Chemical Engineering, Ph.D.

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering.The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

The mission of the graduate program in Chemical Engineering is to prepare students to be leaders in industry, government, or academia.

A master's degree is not required to enter a Ph.D. program.

Graduate Core Classes

All incoming Ph.D students must have an adviser. The student is responsible for contacting faculty members in order to find an adviser.

All Chemical Engineering graduate students must take the following Chemical Engineering Core courses:

- CHE 5020 - Thermodynamics Credits: 3
- CHE 5010 - Transport Phenomena Credits: 3
- CHE 5030 - Reaction Kinetics Credits: 3
- CHE 5355 - Mathematical Methods in Chemical Engineering Credits: 3

Doctoral Program

Credit Hours

- CHE 5980 - Dissertation Research Credits: 30
- Electives - Credits: 30 (CHE 5980 will count toward your electives)
- Total Credits: 72

Ph.D. Seminar Requirements

All chemical engineering graduate students must enroll in CHE 5890, Chemical Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Registered off-campus graduate students can be exempt from having to enroll in CHE 5890.

Ph.D. Preliminary Examination

All Ph.D. students must pass a preliminary examination no later than the end of the student's fifth full semester in the graduate program and a least 15 weeks prior to the dissertation defense. Prior to attempting the Ph.D. preliminary examination, students must have completed all required core classes no later than the end of their fourth semester in the graduate program. Students must file a program of study prior to attempting the preliminary examination.

The goal of the preliminary exam is for the student to demonstrate his or her research progress to-date and present the research proposition that will be investigated and lead to his or her final dissertation. The preliminary exam consists of three components: a written document provided to each member of the student's graduate committee at least one week prior to the oral presentation; a public oral presentation; and a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. A form sent by the student's adviser to the Office of the Registrar reports the results of the examination.

Ph.D. Final Examination (Dissertation Defense)

All Ph.D. students must orally defend their thesis or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public thesis defense in oral presentation format. At least two weeks

before the examination, the student must provide each member of the graduate committee with a copy of the written thesis of Ph.D. dissertation and provide the department an announcement of their defense for advertisement by bulletin board, e-mail, or other means. The results of the examination are reported on the Report of Final Examination form. Graduate committee members may request changes in the thesis or dissertation, and they may postpone signing the form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Graduate Student Resources web site. This copy will be rejected if the format standards specified by the Thesis and Dissertation Format Guide are not met. This guide allows for a publication-ready format. If required by the department and/or committee, additional printed copies should be delivered to the University Store for binding. Students should consult with the adviser to determine if the adviser wants a copy of the thesis, dissertation, or other research documentation.

Environmental Engineering, M.S.

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering.

Core Courses (9 Hours)

All Environmental Engineering M.S. students must take the following Core courses (9 hrs):

- ENVE 5425 - Environmental Engineering Microbiology
- ENVE 5430 - Environmental Engineering Chemistry Credits: 3
- CE 5435 - Environmental Transport Processes Credits: 3

Recommended Courses (3 Hours)

Students should also take at least one of the following Recommended courses (3 hrs):

- ENVE 5410 - Advanced Biological Wastewater Treatment Credits: 3
- ENVE 5450 - Advanced Physical Chemical Treatment Credits: 3

Approved Elective Coursework

Plan A (Thesis) students complete another 14 hours of Approved Elective coursework, at least 4 hours of ENVE 5960 - Thesis Research, and write and defend their thesis. Plan B (Project) students complete another 18 hours of Approved Elective coursework and write and present their project.

Total Required Credit Hours: 30 (Minimum)

QuickStart Program

Chemical Engineering Quick Start, B.S/.M.S.

The BS/MS Quick Start program in Chemical Engineering (CHE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Chemical Engineering.

Additional Information

Students may apply for admission to the Quick Start program during the second semester of their junior year or during their senior year. This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better-planned use of time should result in reduction of the time required for obtaining the Master of Science in Chemical Engineering (M.S. CHE) degree. Students who enter the Quick Start program must accept the primary respon¬sibility for actively planning their programs of study to assure timely completion of their coursework and research programs.

The Quick Start program contains two essential elements:

Qualified students may receive provisional admission to the Chemical Engineering graduate program prior to completing

the normal application process. This provisional admission will permit students to make their long-term educational plans earlier in their studies, thus providing enhanced opportunities for course selection and involvement in research.

Students in the program may apply up to 6 credit hours of 5000-level courses toward both the B.S. and M.S. degree programs. By completing successfully up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level coursework as undergraduates, easing their transition to the Chemical Engineering graduate program.

For additional information and an application form, please contact the CHE graduate program coordinator at che-info@uwyo.edu or stop by 4055 Engineering Building.

Department of Chemistry

204 Physical Sciences Building,
(307) 766-4363
FAX: (307) 766-2807
Web site: www.uwyo.edu/chemistry
Department Head: Brian Leonard

Professors:

DAVID T. ANDERSON, B.S. George Washington University 1987; Ph.D. Dartmouth College 1993; Professor of Chemistry 2012, 2000.

FRANCO BASILE, B.S. University of Wisconsin-Eau Claire 1986; Ph.D. Purdue University 1992; Professor of Chemistry 2018, 2003.

DEBASHIS DUTTA, B. Tech Indian Institute of Technology 1998; Ph.D. University of Notre Dame 2003; Professor of Chemistry 2017, 2006.

JOHN O. HOBERG, B.A. Jamestown College 1984; Ph.D. Montana State University 1990; Professor of Chemistry 2020, 2004.

TERESA LEHMANN DELLA VOLPE, B.S. Universidad Central de Venezuela 1987; Ph.D. University of Minnesota 1997; Professor of Chemistry 2021, 2008.

BRIAN M. LEONARD, B.S. University of Nebraska at Kearney 2003; Ph.D. Texas A&M 2008; Professor of Chemistry 2022, 2016, 2010.

J**ING ZHOU,** B.S. Xiamen University 1997; Ph.D. University of South Carolina 2004; Professor of Chemistry 2021, 2007.

Associate Professors:

CALEB M. HILL, B.S. Jacksonville State University 2009; Ph.D. University of Alabama 2014; Assistant Professor of Chemistry 2016, Associate Professor of Chemistry 2022.

ELLIOTT HULLEY, B.S. Ursinus College 2005; Ph.D. Cornell University 2011; Associate Professor of Chemistry 2020, 2014.

Assistant Professors:

XUESONG LI, B.S. China University of Geosciences, Beijing 2008; Ph.D. University of Bordeaux 2016; Ph.D. University of Liege 2016; Assistant Professor of Chemistry 2023.

LAURA RITA DE SOUSA OLIVEIRA, B.S. New Mexico Institute of Mining and Technology 2010; Ph.D. University of California, Riverside 2017; Assistant Professor of Chemistry 2020.

Research Faculty:

NAVAMONEY ARULSAMY, B.Sc. Madurai-Kamaraj University, India 1982; M.Sc. 1986; Ph.D. University of Hyderabad, India 1991; Senior Research Scientist 2013, 2005.

ALEXANDER GORONCY, B.S. University of Bremen; Ph.D. University of South Carolina; Research Scientist 2015.

Adjunct Professors:

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Adjunct Professor of Chemistry 2001.

KRISTIN DI BONA, Ph.D. The University of Alabama 2014; Adjunct Professor of Chemistry 2022

MAOHONG FAN, Ph.D. Osaka University 2003; Professor in SER and CEAS; Adjunct Professor of Chemistry 2009.

ROBIN D. ROGERS, Ph.D. University of Alabama 1982, University of Alabama, President/ Owner/ Founder, 525

Solutions, Inc. 2017, Professor Emeritus 2021, University of Alabama, Adjunct Professor of Chemistry 2022.

Associate Lecturer:

GINKA S. KUBELKA, M.S. University of Wuerzburg, Germany 2010; Ph.D. University of Wyoming 2015. Associate Lecturer of Chemistry 2022, 2016.

Assistant Lecturers:

INDRAJIT BANDY, BSc. University of Calcutta, India 2011; MSc. University of Calcutta, India 2013; Ph.D. Arizona State University, USA 2019; Assistant Lecturer of Chemistry 2023.

KUI CHEN, B.Sc. Xiamen University 1997; Ph.D. University of South Carolina 2004; Assistant Lecturer of Chemistry 2019.

Professors Emeritus:

Vernon Archer, Keith T. Carron, Robert Corcoran, Clyde Edmiston, Anthony Guzzo, Suzanne Harris, Robert Hurtubise, David Jaeger, E.G. Meyer, Bruce A. Parkinson, Dean M. Roddick, Edward Clennan.

Senior Lecturer Emeritus:

Patricia A. Goodson

Chemistry is one of the fundamental physical sciences dealing with the structure and properties of matter, along with changes that matter undergoes. Chemistry's scope encompasses all substances, living and non-living. Its study and practice include (1) the theoretical and experimental aspects of chemical bonding and structure using computational, spectroscopic, and diffraction techniques; (2) the laboratory synthesis from simple starting materials of desirable compounds in the inorganic, organic and biological classes; and (3) the total analysis of complex mixtures using modern spectroscopic and electrochemical methods. Since we live in a material world, applications of chemical knowledge influence most areas of human endeavor: scientific, economic, political and social. Many of the advances in the areas of new materials, medicines, biotechnology, food production, new energy sources and

semiconductor technology associated with the "computer revolution" are based on chemistry and chemical principles. Some understanding of these chemical principles should be part of every educated person's knowledge.

Because of the broad scope of this discipline, the Department of Chemistry offers a variety of courses and programs. These programs meet the needs of students planning professional careers in chemistry and those wishing to major in chemistry for other objectives. In particular, chemistry is a traditional pre-professional major for students interested in medicine and dentistry. Specific courses are offered to serve other major areas and as part of University Studies and A&S core requirements.

Students who have taken an AP examination and have received a score of 4 or 5 may receive credit for CHEM 1020 and CHEM 1030.

Undergraduate Minor

A minor is offered in the Department of Chemistry. Further information may be found at the web site www.uwyo.edu/chemistry.

Graduate Study

The Department of Chemistry offers programs leading to the degrees of master of science and doctor of philosophy chemistry. The master's degree is offered mainly under Plan A with Plan B reserved for special circumstances.

The department also participates in the preparation of students for the degrees of master of science in natural science and master of science in teaching (M.S.T.), which are designed to improve the competence of those engaged in science teaching.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Chemistry requires that a student have taken the following undergraduate courses: one year of general chemistry; one semester/quarter of quantitative analysis; one year of organic chemistry plus laboratory; one year of physical chemistry plus laboratory; one year of physics; and mathematics through multivariable calculus. As

appropriate, one or more of these course requirements may be waived at the discretion of the department.

The University of Wyoming Chemistry Department is accredited by the American Chemical Society (ACS).

Major

Chemistry, B.A.

The Bachelor of Arts program (B.A.) is designed to provide a solid foundation in chemistry for those pursuing careers that would benefit from chemical expertise.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Plan 1

(33 hours of chemistry)

Course Requirements

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- **Additional USP requirements** Credits: 14
- **Electives** Credits: 57

Basic Chemistry: 27 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

OR

- CHEM 4507 - Physical Chemistry I Credits: 3

- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3

Additional Upper-Level Chemistry: 6 Hours

(Including one of the following)

- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

OR

- PHYS 1110 - General Physics I Credits: 4 **AND**
- PHYS 1120 - General Physics II Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Minimum Total: 120 Hours

Additional Requirements

The Plan 1 B.S. degree requires at least 38 hours of chemistry courses.

The Plan 2 B.S. requires 46 hours of chemistry courses.

Since the chemistry required in the first two years of all programs is the same, students interested in pursuing a chemistry major can elect any program initially. Discussions with a departmental adviser will allow students to choose the most appropriate major for their career objectives. In general, students planning graduate work in chemistry should elect one of the B.S. programs.

The Bachelor of Arts program (B.A.) has a more liberal content with additional electives. It would support careers in business, law and advanced study in areas needing a strong chemistry background such as toxicology or forensic science

The B.A is designed to provide a solid foundation in chemistry for those pursuing careers that would benefit from chemical expertise.

The B.A. is suitable for students in the College of Education who wish to obtain a degree, and may also be appropriate for some premedical tracks.

The Plan 2 (CACS) program is designed to meet standards set by the American Chemical Society (ACS). A student who completes the Plan 2 B.S. program will be certified by the Department of Chemistry to the ACS as having met the specific ACS requirements for undergraduate professional training in chemistry.

Students must obtain a grade of C- or higher in each of the chemistry, physics or math courses specifically required for their degree.

The department offers both, B.A. and B.S. degree programs. The B.A. degree includes a minimum of 33 hours of chemistry.

Chemistry, B.S.

The Bachelor of Science program (B.S.) provides an intensive study of chemistry appropriate for those pursuing careers in the chemical sciences.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Plan 1

(42 hours of chemistry)

Course Requirements

- CHEM 4930 - Undergraduate Research Credits: 1-3 (Students need to complete 2 credit hours of CHEM 4930 total)

- Additional upper-division chemistry credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- **Additional USP requirements** Credits: 14
- **Electives** Credits: 44

Basic Chemistry: 37 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4000 - Career Skills Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 4508 - Physical Chemistry II Credits: 3
- CHEM 4525 - Physical Chemistry Lab I Credits: 1

- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Minimum Total: 120 Hours

Plan 2 (CACS)

(46 hours of chemistry)

Course Requirements

- CHEM 4930 - Undergraduate Research Credits: 1-3 (Students need to complete 3 credit hours of CHEM 4930 total)
- Additional upper-division chemistry Credits: 2-3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- **Additional USP requirements** Credits: 21
- **Electives** Credits: 4-6

Basic Chemistry: 45-46 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4400 - Biological Chemistry Credits: 3

OR

- MOLB 3610 - Principles of Biochemistry Credits: 4

OR

- MOLB 4600 - Advanced Biochemistry Credits: 3
- CHEM 4000 - Career Skills Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2

- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 4508 - Physical Chemistry II Credits: 3
- CHEM 4525 - Physical Chemistry Lab I Credits: 1
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Computer Science: 3 Hours

- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 4515 - Applied Mathematics in Physical Chemistry I Credits: 3
- COSC 1010 - Computational Thinking and Programming Credits: 3

Program Supporting Courses: 18 Hours

A group of courses selected to further the career objectives of the individual student. These are chosen after consultation with the departmental adviser and must subsequently be approved by the departmental Undergraduate Studies Committee. A grade of C- or higher is required for all program supporting courses.

Minimum Total: 120 Hours

Additional Requirements

The BS in chemistry requires a minimum of 42 hours of chemistry.

See the "Prerequisite and MPE Cut Score Reference Chart" on the Math Placement website for the most up-to-date math placement equivalencies: http://www.uwyo.edu/mathstats/math-placement/.

Students taking CHEM 4010 or MICR 4321 as their C3 are not required to take CHEM 4000.

Minor

Chemistry Minor

The Minor in Chemistry enables students with majors in disciplines outside of chemistry to augment their education with knowledge of underpinning chemical principles.

Required Courses:

- CHEM 1020 - General Chemistry I Credits: 4
  or CHEM 1050 Advanced General Chemistry I
- CHEM 1030 - General Chemistry II Credits: 4
  or CHEM 1060 Advanced General Chemistry II
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4

Elective Course: Choose one of the following (3-4 hrs)*

- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3020 - Environmental Chemistry Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- MOLB 4400 - Immunology Credits: 4
- CHEM 4507 - Physical Chemistry I Credits: 3
- MOLB 4600 - Advanced Biochemistry Credits: 3

Additional Requirements

Chemistry is the study of composition, properties of matter, and structures in chemistry. As a Chemistry minor, you will gain knowledge about mathematics, physics, and other types of life sciences.

Note: If you are in the College of Arts and Sciences, at least 12 credits in a minor must be in courses NOT being counted towards your major. If you are in a different College, this rule does not currently apply. A grade of C or better is required in all courses.

Student will be assigned an advisor in the Chemistry department to consult regarding their minor. Appropriate substitutes for the elected course may be approved by a student's Chemistry advisor, and the head of the Department of Chemistry.

Graduate

Chemistry, M.S.

The MS degree introduces students to critical thinking necessary to work independently in industrial settings & prepares you for a professional career. Provides classroom training, presentation & teaching skills along with professional development

Plan A (Thesis)

In addition to fulfilling the minimum university requirements, a student must take the Career Skills course (CHEM 5000) plus one 3 hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding special topics and research courses. These courses must be graduate courses, 5000 and above.

One departmental seminar is required to be presented on the thesis research.

Take 9 Credits

A student may also take 9 credits of any combination of

- CHEM 5190 - Research in Inorganic Chemistry
Credits: 1-3
- CHEM 5290 - Research in Analytical Chemistry
Credits: 1-3
- CHEM 5390 - Research in Organic Chemistry
Credits: 1-3
- CHEM 5590 - Research in Physical Chemistry
Credits: 1-3
- CHEM 5790 - Research in Biological Chemistry
Credits: 1-3

Additional Requirements

The M.S. committee consists of the student's major professor and two other members. The M.S. Committee is responsible for advising the candidate concerning course work and

research. The M.S. Committee is also responsible for the final examination of the candidate. In addition to a thesis, the M.S. candidate is also required to present a departmental seminar on the thesis topic.

A student must take the Career Skills course (CHEM 5000) plus one three-hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding special topics and research courses. These courses must be graduate courses, 5000 and above. A student may also take nine credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790. One departmental seminar is required on the thesis research.

A student in a M.S. program who is in good standing with a grade point average equal to a B or greater may petition to transfer into the Ph.D. program upon approval of his/her M.S. committee and recommendation of the Graduate Committee.

Chemistry, Ph.D.

Our Ph.D. program is a research degree in advanced chemistry that prepares our students for careers in academia or as leaders in industry. A Master's degree is not required; students may enter directly into the Ph.D. program.

Students May Also Take

A student may also take 12 credits of any combination of

- CHEM 5190 - Research in Inorganic Chemistry
Credits: 1-3
- CHEM 5290 - Research in Analytical Chemistry
Credits: 1-3
- CHEM 5390 - Research in Organic Chemistry
Credits: 1-3
- CHEM 5590 - Research in Physical Chemistry
Credits: 1-3
- CHEM 5790 - Research in Biological Chemistry
Credits: 1-3

Area Selected as a Major

In the area selected as a major, the student will take the following as a minimum:

Analytical

- CHEM 5250 - Advanced Chemical Instrumentation Credits: 3
- plus 9 hours of graduate level analytical courses

Inorganic

- 12 hours of graduate level inorganic courses

Organic

- CHEM 5320 - Spectroscopic Methods of Structure Determination Credits: 3
- CHEM 5330 - Advanced Organic Chemistry Credits: 3
- CHEM 5340 - Synthetic Methods in Organic Chemistry Credits: 3
- CHEM 5350

Physical

- any three graduate level physical chemistry courses

Additional Requirements

In addition to fulfilling the minimum university requirements, a student must take the Career Skills course (CHEM 5000) plus one 3 hour graduate course (5000 and above) in each of the four areas (inorganic, analytical, organic, and physical), excluding special topics, tool courses CHEM 5130, CHEM 5320, CHEM 5760, and research courses.

A student may also take 12 credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790.

Students must obtain satisfactory performance on a series of written major field cumulative examinations, including special topics.

Students must obtain satisfactory performance on a preliminary examination, part written and part oral.

Students must present a seminar based on the dissertation research. Students must also obtain one additional credit of

5000 by presenting a divisional or departmental seminar or an oral presentation at a regional or national research meeting. In addition, students must make one presentation at the annual University of Wyoming Graduate School Symposium.

Department of Civil and Architectural Engineering and Construction Management

3074 Engineering Building, (307) 766-2390
FAX: (307) 766-2221
Web site: www.uwyo.edu/civil/
Department Head: Anthony S. Denzer

Professors:

MICHAEL G. BARKER, B.S. Purdue University 1983; M.S. 1987; Ph.D. University of Minnesota 1990; Professor of Civil Engineering 2003.

JONATHAN A. BRANT, B.S. Virginia Military Institute 1998; M.S. University of Nevada 2000; Ph.D. 2003; Professor of Civil Engineering 2020, 2008.

ANTHONY S. DENZER, B.A. University of California, Berkeley 1991; M.Arch. University of Kansas 1998; Ph.D. University of California, Los Angeles 2005; Professor of Architectural Engineering, 2021, 2005.

FRANCOIS JACOBS, B.S. California Baptist University 1995; M.B.A. University of Denver 2005; Ph.D. Colorado State University 2010; Associate Professor of Construction Management, 2019.

KHALED KSAIBATI, B.S. Wayne State University 1984; M.S. Purdue University 1986; Ph.D. Purdue University 1990; Professor of Civil Engineering 2001; Director of the Wyoming Technology Transfer Center 2003, 1990.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

JENNIFER E. TANNER, B.A. Eastern College 1994; B.S. Oklahoma State University 1995; M.S. University of Costa Rica 1998; Ph.D. University of Texas 2003; Associate Professor of Civil Engineering 2009, 2003.

MICHAEL A. URYNOWICZ, B.S. Michigan State University 1990; M.S. University of Wisconsin 1995; M.S. Colorado School of Mines 1998; Ph.D. 2000; Professor of Civil Engineering 2014, 2002.

HAIBO ZHAI, B.S. Xi'an University of Technology 1999; M.S.Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

JIANTING "JULIAN" ZHU, B.S. Zhejiang University 1983; M.S. Peking University 1985; Ph.D. Dalhousie University 1996; Professor of Civil Engineering 2019, 2013.

Associate Professors:

DAVID J. MUKAI, B.S. University of Hawaii 1983; M.S. 1985; Ph.D. University of Washington 1991; Associate Professor of Civil Engineering 2005, 2001.

NORIAKI OHARA, B.A. Chuo University 1997; M.A. 1999; Ph.D. University of California, Davis 2003; Associate Professor of Civil Engineering 2019, 2012.

LIPING WANG, B.S. Xi'an University of Architecture and Technology 2010; M.S. 2003; Ph.D. National University of Singapore 2007; Associate Professor of Architectural Engineering, 2020, 2013.

CHENGYI "CHARLIE" ZHANG, B.S. Harbin University of Commerce 2007; M.S. China University of Mining and Technology, Beijing 2009; Ph.D. Illinois Institute of Technology 2013; Assistant Professor of Construction Management, 2020.

MILAN ZLATKOVIC, B.S. University of Belgrade 2005; M.S. University of Utah 2009; Ph.D. 2015; Assistant Professor of Civil Engineering, 2016.

Assistant Professors:

AHMED ABDELATY AHMED, B.S. Cairo University 2001; M.S. 2014; Ph.D. Iowa State University, 2017; Assistant Professor of Construction Management, 2020.

AYSEGUL DEMIR, B.S. Dokuz Eylul University 2013; M.S. Istanbul Technical University 2016; Ph.D The University of Texas at Austin 2022.

SONG, YU, B.Eng., Traffic & Transportation, Beijing Jiaotong University 2010; M.Sc., Transport & Planning, Cardiff University 2012; M.S., Civil & Environmental Engineering, University of Utah 2016, Ph.D., Civil & Environmental Engineering, University of Wisconsin-Madison 2021.

RYAN WEBB W., B.S. University of New Mexico, Albuquerque, NM 2010; M.S. University of New Mexico, Albuquerque, NM 2012; Ph.D. Colorado State University, Fort Collins, CO 2016; Assistant Professor of Construction Management, 2021.

Assistant Instructional Professors:

SHAWN C. GRIFFITHS, B.S. Utah State University 2009; M.S. University of Arkansas 2011; Ph.D. University of Texas, Austin 2015; Assistant Professor of Civil Engineering 2015.

Academic Professionals:

DHAWAL JAIN, B.S. K.R.V.I.A Mumbai India 2014; M.S. Virginia Tech 2018.

SHELLEY MACY, B.S. University of Wyoming 2002; M.S. University of Wyoming, 2013; Assistant Lecturer, 2021.

Adjunct Faculty:

Song Jin, Jeffrey Keely, Mark Kilgore, Robert Loane, Alan Moore, Evan O'Toole, Chris Schabron, Dennis Mouland, Nathan Bergh. Lindsay Schumaker.

Professors Emeriti:

Patricia J.S. Colberg, Charles W. Dolan, Thomas V. Edgar, K. James Fornstrom, Victor R. Hasfurther, Michael Humenick, Anton Munari, Larry O. Pochop, Jay Puckett, Richard J. Schmidt, James L. Smith, John P. Turner.

Civil Engineering

The mission of the department of Civil and Architectural Engineering and Construction Management at the University of Wyoming is:

- To educate and prepare Civil & Architectural Engineering and Construction Management students to lead as designers, builders, project managers and entrepreneurs as it relates to the sustainable built and natural environments.
- To develop technical solutions through research, innovation, and improved infrastructure to diversify and grow the economies that serve Wyoming and the world.

The Civil Engineering curriculum begins with a basic education in the physical, engineering, mathematical and computer sciences. This foundation supports further development of engineering topics that prepare the engineer to address critical societal needs. To meet these needs, the Civil Engineer designs and builds bridges, buildings, dams and hydraulic structures, pipelines and canals, power plants, transportation facilities, sanitary and environmental engineering facilities, surveying and mapping systems, space and ocean platforms, as well as numerous other engineering systems. The civil engineer must also be aware of the social, humanistic, and political aspects of their projects. Therefore, course work in the humanities and social sciences is required to better understand the social aspects of public works. During the last two years of their program, students may pursue several areas of Civil Engineering or, depending upon their interests, more specialized courses in one or more of the specific technical areas listed below. All students must have a comprehensive design experience.

Structural engineering: Analysis and design of structural systems including buildings, bridges, towers and other structures. Structural engineering also includes the study of solid mechanics and advanced structural materials.

Environmental engineering: Analysis, design and development of engineering systems to provide potable water supplies, treat municipal, industrial and hazardous wastes and protect human health and the environment.

Water resource engineering: Planning, analysis and design of hydraulic and hydrologic systems with respect to watersheds, municipalities, irrigation and drainage, and flood control. Conservation and management of groundwater and surface water are emphasized.

Transportation engineering: Planning, analysis and design of highways, traffic engineering and control, traffic safety, and pavement maintenance, design and rehabilitation.

Geotechnical engineering: Design and analysis of foundations, dams, embankments, slope stability and construction practices in soil and rock.

The Civil Engineering curriculum prepares the graduate to engage in professional practice, and upon completion of post-graduate requirements, to obtain registration as a Professional Engineer. It also provides the graduate with an excellent preparation for graduate studies in engineering, business or law.

Civil Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours. Students may have a maximum of 6 credits in courses with a grade of D in upper division CE courses that apply towards their degree program.

Computer Requirement

Many courses in Civil Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software program (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

CE Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

CE-OB1. Be able to successfully practice the profession of Civil Engineering.
CE-OB2. Be prepared and motivated to accept challenging assignments and responsibilities.
CE-OB3. Demonstrate successful professional growth through leadership development and career progression.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills.

Specifically, every University of Wyoming Civil Engineering graduate shall have:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences

- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Transfer Coursework: The Civil Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I

OR

- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I

- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information.

Graduate Study

Graduate Programs

An advanced degree in civil and architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and doctor of philosophy. Areas of study in the M.S. and Ph.D. programs include: environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources engineering. The department also offers a master of science in architectural engineering and a master of science in environmental engineering in cooperation with the Department of Chemical and Petroleum Engineering. Additional information is available from the department or from the Web page.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree with at least a 3.000 GPA from an accredited engineering curriculum and a GRE combined minimum score of 298.

Ph.D. applicants are reviewed with regard to stated interests, objectives and the ability of the department to provide a quality experience for the applicant.

International students must achieve a TOEFL score of 550 on the paper-based, a minimum of 76 on the internet-based or a minimum of 6.0 on the IELTS.

Architectural Engineering

Architectural Engineering is a rapidly expanding profession that deals with the myriad aspects of buildings and their design, construction and operation. Architectural Engineers are typically specialists, responsible for the design and integration of such building elements as the structural, plumbing, fire protection, heating and air conditioning, or lighting and electrical systems. The curriculum in architectural engineering is designed to acquaint students with the various aspects of building design and construction and exposes them to a variety of courses dealing with different building materials and systems. The curriculum also includes course work in the humanities and social sciences, both to enrich the student's academic experience and assist in dealing with and contributing to society. The program leads to a Bachelor of Science in Architectural Engineering, preparing graduates to engage in practice as Professional Engineers upon completion of post-graduate registration requirements. Graduate work with emphasis in Architectural Engineering leading to a Master of Science and Doctor of Philosophy degree is offered through the Civil and Mechanical Engineering Programs. Additionally, advanced study can also be pursued in allied areas such as architecture, business or other engineering fields.

Students choose an area of emphasis in either structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists.

Architectural Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in courses required for the major. Students must complete a minimum of 42 upper division (junior/senior) or graduate-level semester credit hours.

Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree program.

Computer Requirement

Many courses in Architectural Engineering require students to have a laptop or tablet computer to bring to class, and to be able to download various software programs (normally free). See www.uwyo.edu/civil/undergrad/laptop.html for more information.

Architectural Engineering Objectives

Three to six years after graduation, graduates of the University of Wyoming Civil Engineering Program will:

ARE-OB1 Be able to successfully practice the profession of Architectural Engineering.
ARE-OB2 Be prepared and motivated to accept challenging assignments and responsibilities.
ARE-OB3 Demonstrate successful professional growth through leadership development and career progression.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Transfer Coursework: The Architectural Engineering program accepts transfer course equivalents listed in the Wyoming Transfer Catalog. Other transfer courses will be considered by petition to the Department. The Department has a Policy on Transfer Courses for Continuing Students, which says continuing students should not plan to substitute "core" courses with transfer credits from other institutions, and that transfer credits for continuing students are evaluated

on a case-by case basis. For upper-division coursework, no more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.

Advanced Civil and Architectural Engineering Standing

All undergraduate students in Civil and Architectural Engineering must fulfill the Gateway Requirement prior to enrolling in any upper-division (3000-5000 level) courses taught in the College of Engineering and Applied Science.

To meet the Civil and Architectural Engineering Gateway Requirement, the student must earn a minimum of 57 Quality Points from any combination of the following seven classes or their equivalent. It is not necessary to complete all seven courses to fulfill the Gateway Requirement.

Gateway Courses

- CHEM 1020 - General Chemistry I

- PHYS 1210 - Engineering Physics I

OR

- PHYS 1220 - Engineering Physics II

- MATH 2200 - Calculus I
- MATH 2205 - Calculus II
- ES 2110 - Statics
- ES 2120 - Dynamics
- ES 2410 Mechanics of Material I

See the advising pages on the Civil and Architectural Engineering website for more information

Graduate Study

Graduate Programs

An advanced degree in architectural engineering is professionally and economically attractive. Advanced degrees are important for professional civil engineers in many specialized areas of civil engineering. Many consulting firms and industrial design groups require advanced knowledge gained from graduate studies. Engineers in such firms often work at the forefront of their profession. UW

alumni are involved in design and construction of major projects worldwide.

An advanced degree is also required for careers in university teaching and research. A university career is highly recommended for those motivated students who are interested in becoming leaders in education and in the development of new concepts, processes and inventions.

The Department of Civil and Architectural Engineering offers programs leading to the degrees of master of science and Areas of study in the M.S. programs include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, and building energy modeling. Additional information is available from the department or from the Web page.

Students choose an area of emphasis in either, building, structural or mechanical systems and select courses from approved electives, usually beginning their elective sequence in the second semester of their junior year. Consult with the Civil and Architectural Engineering Department for current elective lists. Students are required to have a lap top computer.

Architectural engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in civil and architectural engineering courses attempted at this university.

Construction Management

Construction Management is a rapidly-growing discipline, that is focused on the planning and oversight required to deliver construction projects on-time and on-budget. Students learn skills such as project management, decision making, budgeting, scheduling, and site logistics including safety planning, surveying, and building information modeling.

The Construction Management curriculum is designed to prepare students for success in a wide variety of career paths available in the construction sector. The curriculum includes course work in construction, business, humanities and social sciences to enrich the student's academic experience and to assist them in making a positive contribution to society. The program leads to a four-year Bachelor of Science in Construction Management degree.

Construction Management degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 in courses required for the major.

A grade of C or better is required in all required courses with a CM prefix.

Construction Management Learning Objectives

Upon graduation students shall be able to:

- Create written communications appropriate to the construction discipline.
- Create oral presentations appropriate to the construction discipline.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based on ethical principles.
- Analyze construction documents for planning and management of construction processes.
- Analyze methods, materials, and equipment used to construct projects.
- Apply electronic-based technology to manage the construction process.
- Apply basic surveying techniques for construction layout and control.
- Understand construction management skills as a member of a multi-disciplinary team.
- Understand different methods for project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
- Understand construction risk management.
- Understand construction accounting and cost control.
- Understand construction quality assurance and control.
- Understand construction project control processes.
- Understand the legal implications of contract, common, and regulatory law to manage a construction project.
- Understand the basic principles of sustainable construction.
- Understand the basic principles of structural behavior.
- Understand the basic principles of mechanical, electrical and piping system.

The University of Wyoming Construction Management program is accredited by the American Council for Construction Education (ACCE).

Environmental Engineering

3074/4055 Engineering Building,
766-5255/766-2500
E-mail: cae.info@uwyo.edu

Web site:
www.uwyo.edu/chemical/graduate/prospective/environmental/index.html

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering. This interdisciplinary degree offers students an engineering perspective for solutions to environmental problems. Emphasis is on minimization, monitoring, control, and processing of waste products as well as treatment and disposal associated with point and non-point pollution sources. Integration of engineering with science, regulatory, and policy aspects of environmental engineering is an important component of this unique program.
Further information is available from the environmental engineering graduate studies program office and/or departments involved.

Program Specific Admission Requirements

Admission is open to students with at least a bachelor's degree who meet the minimum requirements:

- A GPA of 3.000 (A=4.000), or equivalent;
- A GRE score of 291 (combined verbal and quantitative sections);
- For international applicants who did not attend an English-speaking program in an English-speaking country for all years of their highest degree: A TOEFL score of 76 (Internet based) or an IELTS score of 6.0.

Complete official transcripts of all prior college-level coursework and recommendations from three references must be submitted as parts of the application.

The deadline to submit application credentials is February 1 (to be considered for fall semester), and October 1 (to be considered for spring semester).

The application will not be processed until all the necessary documents have been submitted.

Major

Architectural Engineering, B.S.

Architectural Engineers create structural and mechanical-electrical-plumbing systems for buildings. The B.S. in Architectural Engineering is accredited by ABET and

provides a path to P.E. licensure. Note: This is not an Architecture degree. This degree program requires (120) credits, (42) of which are upper division credits.

Accreditation

The Architectural Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Architectural and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must Take one additional USP course, advisor approved.

Core Courses: 73 Credit Hours

- ARE 1000 - Exploring CAECM Credits: 1
- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3

- ARE 3110 - Professional Practice Credits: 3
- ARE 3200 - Structural Analysis I Credits: 3
- ARE 3210 - Civil Engineering Materials Credits: 4
- ARE 3300 - Building Electrical and Plumbing Systems Credits: 3
- ARE 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ARE 3600 - Architectural Design Studio III Credits: 3
- ARE 4600 - Architectural Design Studio IV Credits: 3
- ART 3030 - History of Architecture Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Geology Course: 4 Credit Hours

Must take one of the following.

- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

Physics Course: 4 Credit Hours

Must take one of the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

ARE Professional Development Courses: 18 Credit Hours Required

Must take six of the following:

- ARE 3360 - Fundamentals of Transport Phenomena Credits: 3
- ARE 4200 - Structural Analysis II Credits: 3
- ARE 4250 - Structural Steel Design Credits: 3
- ARE 4260 - Structural Concrete Design Credits: 3

- ARE 4285 - Masonry Design Credits: 3
- ARE 4295 - Structural Timber Design Credits: 3
- ARE 4330 - Building Electrical Systems Credits: 3
- ARE 4390 - Building Safety and Fire Protection Credits: 3
- ARE 4430 - HVAC Systems Analysis and Design Credits: 3
- ARE 4490 - Modeling and Optimization of Energy Systems Credits: 3
- CE 3600 - Soil Mechanics I Credits: 4
- CE 4610 - Foundation Engineering Credits: 3
- CE 4620 - Soil and Rock Slope Engineering Credits: 3
- CE 4630 - Ground Improvement, Reinforcement and Treatment Credits: 3
- CE 5010 - Advanced Mechanics of Materials Credits: 3
- CE 5200 - Advanced Structural Analysis Credits: 3
- CE 5220 - Structural Dynamics Credits: 3
- CE 5255 - Advanced Steel Design Credits: 3
- CE 5270 - Highway Bridge Engineering Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3170 - Machine Design Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

ARE Capstone: 3 Credit Hours

Must take 1 of the following courses

- ARE 4720 - Structural Systems Design Project Credits: 3
- ARE 4740 - Mechanical Systems Design Project Credits: 3

ARE Math/Sci/Tech/Prof Courses: 3 credit hours

Must take 3 additional credit hours in Math/Science/Technical/Professional courses.

Additional Requirements/Program Information

- Advanced Standing/Gateway: Prior to enrolling in upper division ARE/CE courses, students must earn 57 quality points in the following courses: CHEM 1020, PHYS 1210 or

PHYS 1220, MATH 2200, MATH 2205, ES 2110, ES 2120, and ES 2410.

- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all engineering courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Students choose an area of emphasis in either structural or mechanical systems, and select Optional Electives and the Capstone Design for their emphasis area. Care should be taken to ensure prerequisites are completed.
- Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- No more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Civil Engineering, B.S.

Civil Engineers create infrastructure and development projects, including structures, transportation, water & wastewater, earthworks, and urban site plans. The B.S. in Civil Engineering is accredited by ABET and provides a path to P.E. licensure.

Accreditation

The Civil Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Civil and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must take one additional USP course, advisor approved.

Core Courses: 76 Credits

- CE 1000 - Exploring CAECM Credits: 1
- CE 1010 - Civil Engineering Tools Credits: 3
- CE 2070 - Engineering Surveying Credits: 4
- CE 3110 - Professional Practice Credits: 3
- CE 3200 - Structural Analysis I Credits: 3
- CE 3210 - Civil Engineering Materials Credits: 4
- CE 3300 - Hydraulic Engineering Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 3500 - Transportation Engineering Credits: 4
- CE 3600 - Soil Mechanics I Credits: 4
- CE 4010 - Civil Engineering Design Credits: 3
- CE 4900 - Comprehensive Design Experience Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Physics Course

Must take one of the following:

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Science Elective: 4 credit hours

Must take one of the following.

- ASTR 2310 - General Astronomy I Credits: 4
- ATSC 2000 - Introduction to Meteorology Credits: 4
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3

- LIFE 1010 - General Biology Credits: 4
- ENR 1200 - Environment Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1110 - Physical Geology for Engineers Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4

Structural Design Course: 3 credit hours

Must take one of the following.

- CE 4250 - Structural Steel Design Credits: 3
- CE 4260 - Structural Concrete Design Credits: 3

CE Professional Development Courses: 12 credit hours

Must take four of the following.

Selection of Professional Development Courses must demonstrate breadth by covering more than one area among Environmental, Geotechnical, Transportation and Water Resources.

- CE 4200 - Structural Analysis II Credits: 3
- CE 4265 - Prestressed Concrete Design Credits: 3
- CE 4285 - Masonry Design Credits: 3
- CE 4295 - Structural Timber Design Credits: 3
- CE 4400 - Design of Water Treatment Facilities Credits: 3
- CE 4410 - Design of Wastewater Treatment Facilities Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CE 4441 - Solid Waste Engineering Credits: 3
- CE 4510 - Pavement Design for Airports and Highways Credits: 3
- CE 4530 - Traffic Engineering: Operations Credits: 3
- CE 4555 - Geometric Design of Highways Credits: 3
- CE 4610 - Foundation Engineering Credits: 3
- CE 4620 - Soil and Rock Slope Engineering Credits: 3
- CE 4630 - Ground Improvement, Reinforcement and Treatment Credits: 3

- CE 4800 - Hydrology Credits: 3
- CE 4810 - Groundwater Hydrology Credits: 3
- CE 4870 - Water Resource Engineering Credits: 3

CE Math/Sci/Tech/Prof Courses: 3 credit hours

Must take 3 additional credit hours in Math/Science/Technical/Professional courses.

Additional Requirements/Program Information

- Advanced Standing/Gateway: Prior to enrolling in upper division ARE/CE courses, students must earn 57 quality points in the following courses: CHEM 1020, PHYS 1210 or PHYS 1220, MATH 2200, MATH 2205, ES 2110, ES 2120, and ES 2410.
- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all engineering courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Students must take either CE 4250 or CE 4260 for the Structural Design requirement. Remaining Professional Development Electives must cover at least two of the following areas: Environmental, Geotechnical, Transportation, Water Resources.
- Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- No more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Civil Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Construction Management, B.S.

Construction Managers are responsible for overseeing construction projects, including schedules, budgets, and quality control. The B.S. in Construction Management is a candidate for accreditation by ACCE and provides numerous career paths.

Accreditation

The Construction Management Program is accredited by the American Council for Construction Education (ACCE), https://www.acce-hq.org/, under the Bachelor Degree Programs.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must take one additional USP course, advisor approved.

Core Courses: 53 credit hours

- CM 1000 - Exploring CAECM Credits: 1
- CE 2070 - Engineering Surveying Credits: 4
- CM 2000 - Introduction to Construction Management Credits: 3
- CM 2120 - Construction Materials and Methods Credits: 3
- CM 2200 - Construction Documents Credits: 3
- CM 2300 - Construction Safety Credits: 3
- CM 2400 - MEP Systems Credits: 3
- CM 3100 - Construction Scheduling Credits: 3
- CM 3160 - Construction Law & Contracts Credits: 3
- CM 3180 - Evolving Technologies in CM Credits: 3
- CM 3200 - Statics & Structural Systems Credits: 4
- CM 3210 - Construction Estimating Credits: 3
- CM 3220 - Soils & Concrete Credits: 4
- CM 4100 - Project Management Credits: 3
- CM 4140 - Heavy CM Methods Credits: 3
- CM 4600 - Building Info. Modeling Credits: 3
- CM 4900 - Capstone Project Credits: 4

Business & Professional Courses: 12 credit hours

- ACCT 2010 - Principles of Accounting I Credits: 3

- ECON 1010 - Principles of Macroeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3

Math/Science Courses: 18 credit hours

- GEOL 1100 - Physical Geology Credits: 4
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- Math/Science Elective Credits: 3

CM Electives: 6 credit hours

Must take 6 additional credit hours in Construction Management elective courses.

General Electives: 9 credit hours

Must take 9 additional credit hours in general elective courses.

Additional Requirements/Program Information

- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Math 2350 may replace Math 2200 but student must also have Math 1405.
- Math 1405 may be satisfied with Level 5 of the Math placement exam or Math ACT of 27 or SAT Math of 640. Students placing out of Math 1405 will need an additional general elective.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.

Minor

Construction Management Minor

The Minor in Construction Management is a 15 credit hour program available to UW undergraduate students in other majors. A Minor in Construction Management develops skills and knowledge that can applied in the construction industry.

For UW undergraduate students in other majors, a Minor in Construction Management may be earned by:

Completing 15 credits by taking the following CM courses:

CM 2000

CM 2300

CM 2600

CM 3210

CM 3100

Architectural Engineering majors will not be permitted to use the following courses to satisfy the Minor requirement (or as ARE Major Electives), because they duplicate content in required courses in their major:

CM 2120: Construction Materials and Methods

CM 2200: Structures

CM 2400: MEP Systems

CM 2600: Construction Documents

CM 3220: Soils and Concrete

CM 4600: Building Info. Modeling

Civil Engineering majors will not be permitted to use the following courses to satisfy the Minor requirements (or as CE MSTP Electives), because they duplicate content in required courses in their major:

CM 2200: Structures

CM 3220: Soils and Concrete

Minors in Construction Management are not accredited

Land Surveying Minor

May be paired with any major and can be completed 100% online. These classes may be used toward meeting education requirements for licensure. Concepts include surveying, legal, mapping, real property, ethics, boundary. This program requires 18 credits.

Additional Information

The Land Surveying minor may be paired with any major. The intent of this minor is to prepare the student for the pursuit of Professional Licensure. Those only seeking the remote learning LS courses should see the Cadastral Land Surveying Certificate found at http://www.uwyo.edu/civil/landsurvey/. All LS classes are offered as distance learning through Distance Education Programs.

Ethics Requirement

- LS 3300 - Ethics for the Professional Surveyor Credits: 1

OR

- MGT 2030 - Principle-Based Ethics Credits: 3

Curriculum Requirements:

- LS 2010 - Engineering Surveying Lecture Credits: 2

AND

- LS 3300 - Ethics for the Professional Surveyor Credits: 1

OR

- CE 2070 - Engineering Surveying Credits: 4

AND minimum of 15 credits from the following list:

- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2110 - Real Property Law Credits: 3
- LS 2400 - Basic Geodesy for Surveyors Credits: 2
- LS 2410 - GIS in Surveying Credits: 3

OR

- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- LS 3100 - Real Property Descriptions Credits: 2
- LS 3110 - Boundary Evidence Credits: 2

- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4

Total Credits: 18 Hours

The intent of this application based minor is to provide students with more indepth knowledge of surveying. Those seeking Professional Licensure should see the Cadastral Surveying Certificate.

Graduate

Architectural Engineering, M.S.

The M.S. in Architectural Engineering is offered for students who wish to pursue advanced coursework and research in the discipline beyond the B.S. This is not an accredited pre-professional degree. 30 credits required.

Plan A (Thesis)

The degree of master of science, Plan A, requires a minimum of 26 hours of coursework and a minimum of 4 hours thesis research in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework for approval by the departmental graduate studies committee (AREGS), and the department head.

Plan A is required of all state or contract supported graduate assistants.

Plan B (Non-thesis)

Requires a minimum of 30 hours of coursework and a Plan B paper, in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework and the course number that the Plan B paper covers for approval by the AREGS and the department head.

Civil Engineering, M.S.

The M.S. in Civil Engineering is offered for students who wish to pursue advanced coursework and research in the discipline beyond the B.S. This is not an accredited pre-professional degree. 30 credits required.

Program Specific Degree Requirements

Master's Program

Areas of study in the master of science program include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources engineering. The master of science degree in each of these areas requires completion of 12 to 18 hours of engineering courses related to the particular program area.

Plan A (Thesis)

The degree of master of science, Plan A, requires a minimum of 26 hours of coursework and a minimum of 4 hours thesis research in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework for approval by the departmental graduate studies committee (CEGS), and the department head.

Plan A is required of all state or contract supported graduate assistants.

Plan B (Non-Thesis)

Requires a minimum of 30 hours of coursework and a Plan B paper, in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework and the course number that the Plan B paper covers for approval by the CEGS and the department head.

Civil Engineering, Ph.D.

The Ph.D. degree in Civil Engineering is offered for students who wish to pursue advanced coursework and a comprehensive research project led by a faculty advisor. 42 credits and a dissertation are required.

Certificate

Cadastral Surveying Certificate

The 100% online program is designed for working professionals to serve those seeking or exploring meeting education requirements for licensure. Concepts include surveying, legal, mapping, real property, ethics, boundary. This certificate requires 30 credits.

Program Information

- Students must be properly admitted as Cadastral Surveying Certificate students through the University of Wyoming Admissions Office to be eligible for this Certficate.
- This certificate requires a minimum of 30 semester hours as listed below.
- All transfer credit is subject to review by the UW Land Surveying Director.
- A grade of C or better must be earned in each course.
- The Certificate meets the Wyoming Board of Professional Engineers and Land Surveying licensing requirements for the surveying specific course work required to apply to be a Land Surveyor in Training (LSIT).
- Students earning the Cadastral Surveying Certificate are NOT eligible for Federal Financial Aid. Students may utilize private student loan programs available through the Student Financial Aid Office.
- VA Education Benefits & VocRehab are applicable to the Cadastral Surveying Certificate.
- The UW Cadastral Surveying program is not ABET Accredited.
- Students should have a working knowledge of algebra and trigonometry, and some experience with spreadsheets prior to beginning in this program.
- AutoCAD Civil 3D is recommended.
- Certificate may be paired with an AS in Surveying Technology or a BS in Organizational Leadership. Contact LS Director for additional details.

Course Requirements

- LS 2010 - Engineering Surveying Lecture Credits: 2
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2110 - Real Property Law Credits: 3
- LS 2400 - Basic Geodesy for Surveyors Credits: 2
- LS 3100 - Real Property Descriptions Credits: 2
- LS 3110 - Boundary Evidence Credits: 2

- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4

Required Credits: 30 Hours Minimum

QuickStart Program

Civil and Architectural Engineering Quick Start, B.S./M.S.

The MSCE Quick Start (Plan A) program in Civil and Architectural Engineering (CAE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor of science (BS) degree in Civil Engineering or Architectural Engineering. This degree program requires 30 credits.

Department of Electrical Engineering and Computer Science

5068 Engineering Building, (307) 766-2279
Web site: www.uwyo.edu/eecs

Professors:

STEVEN F. BARRETT, B.S. University of Nebraska 1979; M.E. University of Idaho 1986; Ph.D. University of Texas 1993; Professor of EECS 2011, 1999.

RUBEN GAMBOA, B.S. Angelo State University 1984; M.C.S. Texas A&M University 1986; Ph.D. The University of Texas 1999; Professor of EECS 2015, 2002.

JOHN M. HITCHCOCK, B.S. Iowa State University 1999; M.S. 2001; Ph.D. 2003; Professor of EECS 2015, 2003.

JOHN E. McINROY, B.S. University of Wyoming 1986; M.S. Rensselaer Polytechnic Institute 1988; Ph.D. 1991; Professor of EECS 2002, 1991.

SURESH S. MUKNAHALLIPATNA, B.E. University of Bangalore, India 1988; M.E. 1991; Ph.D. University of Wyoming 1995; Professor of EECS 2010, 1997.

CAMERON H.G. WRIGHT, B.S. Louisiana Tech University 1983; M.S. Purdue University 1988; Ph.D. University of Texas 1996; Professor of EECS 2016, 2003.

Associate Professors:

AMY BANIC, B.S. Duquesne University 2003; M.S. University of North Carolina 2005; Ph.D. 2008; Associate Professor of EECS 2012, 2010.

DONGLIANG DUAN, B.E. Huazhong University of Science and Technology 2006; M.S. University of Florida 2009; Ph.D. Colorado State University 2012; Associate Professor of EECS 2019, 2012.

LARS KOTTHOFF, Diplom (M.Sc.) University of Leipzig 2007; Ph.D. University of St. Andrews 2012; Associate Professor of EECS 2022, 2017.

EVA S. FERRE-PIKAL, B.S. University of Puerto Rico 1988; M.S. University of Michigan 1989; Ph.D. University of Colorado 1996; Associate Professor of EECS 2004, 1998.

JOHN F. O'BRIEN, B.S. California State Polytechnic University, Pomona 1991; M.S. University of Wyoming 1997; Ph.D. Rensselaer Polytechnic Institute 2001; Associate Professor of EECS 2009, 2003.

JON M. PIKAL, B.S. Purdue University 1988; M.S. University of Colorado 1993; Ph.D. Colorado State University 1999; Associate Professor of EECS 2005, 1999.

Assistant Professors:

CHAO JIANG, B.E. Chongqing University 2009; Ph.D. Stevens Institute of Technology 2019; Assistant Professor of EECS 2019.

DUONG NGUYEN, B.S. Hanoi University of Science and Technology 2006; M.S. Purdue University 2012; Ph.D. Michigan State University 2021. Assistant Professor of EECS 2022.

NGA NGUYEN, B.S. Hanoi University of Science and Technology 2005; M.S. 2007; Ph.D. Michigan State

University 2017; Assistant Professor of EECS 2018. Assistant Professor of EECS 2022.

SHIVANAND SHESHAPPANAVAR,B.E. Visvesvaraya Tech. University; M.T. Visvesvaraya Tech; M.S. Syracuse University, Ph.D. U. Delaware 2023; Assistant Professor of EECS 2023.

DIKSHA SHUKLA, B.S. Kanpur University 2008; M.C.A. Jawaharlal Nehru University 2011; M.S. Louisiana Tech University 2014; Ph.D. Syracuse University 2019; Assistant Professor of EECS 2019. Assistant Professor of EECS 2022.

ZEJIAN ZHOU, B.S. 2016; Stevens Institute of Technology; Ph.D. Stevens Institute of Technology 2021. Assistant Professor of EECS 2022.

Senior Lecturers:

JAMES S. WARD, B.S. University of Wyoming 1993; M.S. 1997; Senior Lecturer of EECS 2011, 2000.

Assistant Lecturers:

LAURA OLER, B.S. Brigham Young U. , M.S. Massachusetts Institute of Technology , Assistant Lecturer of EECS 2023

DANIEL RADOSEVICH, B.S. University of Wyoming 2018; Assistant Lecturer of EECS 2022.

Adjunct Faculty:

Robin Hill, Elena Oggero, Guido Pagnacco

Professors Emeriti:

Thomas A. Bailey, Jr., Mark Balas, Henry R. Bauer III, James L. Caldwell, Christos T. Constantinides, John R. Cowles, Jerry J. Cupal, Clifford D. Ferris, Jerry Hamann, Raymond G. Jacquot, Robert F. Kubichek, Stanislaw Legowski, John Pierre, John Rowland, John W. Steadman, A.H.M. Sadrul Ula, David Whitman

Lecturers Emeritus:

Jeri R. Hanly

OVERVIEW

The Department of Electrical Engineering and Computer Science is home to three undergraduate ABET accredited programs (Computer Science, Computer Engineering and Electrical Engineering), and M.S. and Ph.D. programs in

Computer Science and Electrical Engineering. Below we describe each of these programs; first the undergraduate programs and then the graduate programs.

UNDERGRADUATE PROGRAMS

The three undergraduate programs are ABET accredited and lead to a B.S. in Computer Science, Computer Engineering or Electrical Engineering. The first years of the various programs overlap significantly to allow students with an interest in computing or electrical engineering to explore the areas before identifying a specialty.

COMPUTER SCIENCE

A Bachelor of Science degree (B.S.) in Computer Science prepares students for careers in any industry or to continue with graduate study in Computer Science and many other fields. Computer science students learn to approach problems from a computational (algorithmic) point of view, and this approach to problem solving often leads to better and more general solutions. Software systems, information technology, and large-scale data applications are core technologies in every area, and the applications continue to grow with software and information systems becoming more embedded in everyday life. These systems are essential tools in science and engineering, for business and finance, government, communications, medicine, and entertainment. Software systems make the world go round and smart devices, such as phones, tablets, glasses, wearable devices, medical implants are ubiquitous. As a result, computer science has grown from a specialized field to an independent, broadly based area that studies all aspects of the use and understanding of software systems, information, and computational processes. Students studying B.S. in Computer Science at the University of Wyoming have the option to focus their studies by taking a concentration in Cybersecurity. The Cybersecurity certificate

captures core technical cyber security foundations and principles, from databases and networks to advanced threat detection and mitigation. This B.S. program is ABET accredited.

Program Objectives for Computer Science program

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Program Learning Outcomes for Computer Science program

The program of study in Computer Science enables students to achieve, by the time of graduation:

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

ELECTRICAL ENGINEERING

This curriculum has been designed to provide the depth of understanding necessary to meet challenges of changing technology while being flexible enough to allow students to pursue in-depth study in at least one area of electrical engineering. To attain this, students must understand mathematics and the basic engineering sciences. The fundamental electrical engineering education consists of courses in circuits, networks, electromagnetics, electronics, digital systems, communications, controls, and energy

conversion. Selection of elective courses, in consultation with the academic adviser, enables students to specialize in the above-mentioned areas, robotics, microcircuits, microprocessors and high frequency electronics.

Laboratory work associated with electrical engineering courses is an important part of the curricula. This work helps students gain experience in applying the theoretical knowledge they acquire to practical engineering problems. Engineering design is a key component of the curriculum that concludes with significant design experience in the senior year. The program also includes the option listed below.

F.M. Long Bioengineering Option. Named in honor of UW Professor Francis M. Long, this area offers excellent opportunities for those interested in applying the techniques of the electronic engineer to problems of environmental science, biology, and medicine. Employment opportunities exist in state and federal agencies, industry, and medical institutions. Career placement includes such areas as environmental monitoring, design and development of biological and medical instrumentation and clinical engineering. With minor modifications, the curriculum shown may be used as preparation for entrance to medical or dental school.

COMPUTER ENGINEERING

Computer Engineering is a blend of Computer Science and Electrical Engineering. Computer Engineering students receive training that allows them to design complex computer systems and embed them in custom applications such as robots, spacecraft, automobiles, etc. A typical system may interface with a sensor to measure the world, then decide how to best use the information to achieve goals and eventually turn on actuators which perform the needed task. They also develop computer vision systems, high performance computers and software, and the Internet of Things. They take many of the same required courses as Electrical Engineers but fill in their electives with computer specific courses. Graduates can design electric circuits, understand network hardware, design computer systems, and write the software inside those systems. Compared to Electrical Engineers, Computer Engineers have less breadth of knowledge in Electrical Engineering but more depth in software and computer hardware. Compared to Computer Scientists, Computer Engineers know much more about hardware and signal/system theory. Computer Engineers sometimes also major in either Electrical Engineering or Computer Science to get two degrees.

Concurrent Major and Minor

The department offers a concurrent major and minor in both the electrical engineering and computer engineering programs. Consult the department office for a current detailed list of requirements.

Educational Objectives for Electrical and Computer Engineering Programs

Graduates of the University of Wyoming Electrical and Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Student Outcomes Electrical and Computer Engineering Programs

All Electrical (Computer) Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Grade Policy

Electrical and computer engineering majors must achieve a grade of C (2.000) or better on courses that are prerequisites for courses within the student's course of study. Students must also achieve a grade of C (2.000) or better in all required mathematics courses.

Graduate Study - Computer Science

The Department offers graduate work leading to the Master of Science degree in computer science and the Doctor of Philosophy in computer science. The Department also offers a graduate minor in computer science.

Program Specific Admission Requirement

Applicants for a graduate degree in computer science are expected to have completed undergraduate courses in Algorithms and Data Structures (COSC 3020 equivalent), Theory of Computing (COSC 4100 or COSC 4200 equivalent), Operating Systems (COSC 4740 equivalent), and Programming languages or Compilers (COSC 4780 or COSC 4785 equivalent). Applicants to the doctoral program must have completed a bachelor's or master's degree in computer science or a closely related discipline at an accredited university or college.

The Graduate Record Examination (GRE) is encourage for all applicants. Our strongest students tend to have scores above these minimums, with quantitative scores often around the 90th percentile or higher.

Students whose native language is not English must also complete the Test of English as a Foreign Language (TOEFL) with a score of at least 550 on the paper based TOEFL; 213 on the computerized test including a 58 or better in section 1-Reading; 80 for the Internet based TOEFL (iBT) including a score of 23 or better in section 1-Reading or the International English Language Testing System (IELTS) test with a 6.5 score or better. Students may also use the Duolingo exam, with a minimum of 105 overall and 125 in the Literacy section.

You must submit to the online application system contact information for three references that can evaluate your potential for graduate study in computer science. If you wish to pursue a Ph.D., the letters should address your ability to pursue quality original research. Letters should also evaluate your oral and written communication skills.

If you meet the minimum criteria and would like to formally apply for admission you will also need to submit the following information during the completion of your application via the application portal:

Copies of transcripts from all colleges and universities (minimum GPA or equivalent 3.00 on a scale of 4.00) for all degrees attained. International applicants must submit copies of individual semester transcripts, consolidated transcripts will not be accepted.

Copy of GRE scores a minimum percentile of 40% on verbal and 65% on quantitative portions of the exam. The majority of admitted students tend to have scores above these minimums.

Contact information for three recommendation letters (applicants should follow up with recommenders to ensure this requirement is fulfilled; applications will not be processed further until all recommendations have been received).

International students will also need to submit a copy of TOEFL scores, IELTS scores, or Duolingo scores.

High performing undergraduates in computer science can elect for Quick Start admission to the graduate program, allowing the sharing of up to six credit hours of 5000-level coursework toward the completion of both the B.S. and the graduate degree programs.

Graduate Program in Electrical Engineering

The department offers programs of study leading to the Master of Science and Doctor of Philosophy degrees in electrical engineering. Study programs are individually planned to students' interests in both course work and research. The areas of major concentration at the graduate level are:

Bioengineering

Computer Vision

Controls

Electrical Energy Systems Electronic Systems and Devices Robotics

Machine Learning

Robotics

Signal Processing and Computer Networks

The department also offers a combined B.S./M.S. program for exceptional students wishing to obtain both degrees in a shorter period.

Program Specific Admission Requirements

A complete application must include:

Statement of purpose
Official transcripts from all post-secondary institutions attended
TOEFL total of 79 iBT or IELTS total 6.5.

Additionally, all international students who are state-funded teaching assistantships or any international student with teaching responsibilities are required to complete an Oral Proficiency Interview (OPI). Students will need to follow the recommendations to improve their English skills. Students on state-funding who fail to follow the recommendations or do not meet the minimum proficiency by the end of their first semester will not be able to receive any state-funding until they have demonstrated proficiency.

Major

Computer Engineering, B.S.

Provides knowledge to be able to design, analyze, and develop computer systems including processors, memory, embedded devices, and data communication systems for a wide range of application domains.

Accreditation

The Computer Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2300 - Discrete Structures Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- 3 credits of an approved Math/Science Elective [2]

Engineering Science

- ES 2110 - Statics Credits: 3 [3]
- ES 2120 - Dynamics Credits: 3 [3]
- ES 2210 - Electric Circuit Analysis Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3

- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4490 - Hardware Descriptive Language (HDL) Digital Design Credits: 3
- EE 4820 - Senior Design I Credits: 2 [4]
- EE 4830 - Senior Design II Credits: 2 [4]
- EE 4870 - Computer Network Hardware Credits: 4 [5]

OR

- COSC 4760 - Computer Networks Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- EE 2150 - Computer Organization Credits:

CPEN Electives

12 credits from the following list.

A maximum of two CPEN elective courses can be from the computer science department.

EE 4075 is not allowed as a CPEN Elective.

- EE 4245 - Digital Signal Processing Credits: 3
- EE 4340 - Semiconductor Materials and Devices Credits: 3
- EE 4345 - Hardware Digital Signal Processing Credits: 3
- EE 4360 - VLSI Design Credits: 3
- EE 4440 - Communication Theory Credits: 3
- EE 4590 - Real Time Embedded Systems Credits: 3
- EE 4870 - Computer Network Hardware Credits: 4
- EE 4990 - Advanced Microprocessors Credits: 3
- EE 5390 - Computer Architecture Credits: 3
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- EE 5430 - 3-D Computer Vision Credits: 3
- EE 5460 - Probabilistic Robotics Credits: 3
- EE 5620 - Digital Image Processing Credits: 3
- EE 5630 - Advanced Image Processing Credits: 3
- EE 5650 - Object and Pattern Recognition Credits: 3
- EE 5670 - Digital Image Formation Credits: 3
- COSC 3020 - Algorithm Design and Analysis Credits: 4

- COSC 3765 - Computer Security Credits: 3
- COSC 4210 - Web Application Development Credits: 3
- COSC 4220 - Design and Implementation in Emerging Environments Credits: 3
- COSC 4450 - Computer Graphics Credits: 3
- COSC 4550 - Introduction to Artificial Intelligence Credits: 3
- COSC 4555 - Machine Learning Credits: 3
- COSC 4560 - Modern Robots and Softbots Credits: 3
- COSC 4730 - Mobile Programming Credits: 3
- COSC 4735 - Advanced Mobile Programming Credits: 3
- COSC 4740 - Operating Systems Design Credits: 4
- COSC 4760 - Computer Networks Credits: 3
- BE 5410 - Rehabilitation Engineering Credits: 3
- MATH 4500 - Matrix Theory Credits: 3

EE/BE Elective

3 credits of an approved EE/BE Elective.

General Elective

3 credits of a general elective (1000 level or higher; any Math course must be 2000 level or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. While PHYS 1220 is not a prerequisite for ES 2210, it is recommended that PHYS 1220 should be taken before or concurrently with ES 2210.

[2] One course from the ECE Math/Science Elective List. ABET requires a minimum of 30 hours of Math/Science courses.

[3]Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

[4] To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[5] Network Congestion Control can also be taken to fulfill the CPEN network course requirement.

- Online courses taken outside of the Wyoming system will not be considered for preapproved transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all required mathematics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- EE 1101 is the recommended FYS course for EE and CPEN majors
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Computer Engineering Program Educational Objectives

Graduates of the University of Wyoming Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Computer Engineering - Student Learning Outcomes

All Computer Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering

solutions in global, economic, environmental, and societal contexts

- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Computer Science, B.S.

A state-of-the-art curriculum that provides a solid foundation in programming, algorithm design and analysis, cybersecurity, databases, and computer systems. Elective topics include: AI, ML, AR/VR, and Mobile apps.

Accreditation

The Computer Science Program is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer Science and Similarly Named Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Computer Science General Information

Computer Science majors must satisfactorily meet the requirements of the University Studies Program (USP), and they must complete a minimum of 120 credit hours, at least 42 of which must be upper division hours.

Note that some of the courses required for the Computer Science core or the concentrations will meet some of the USP requirements. Students do not have to take additional courses to meet those requirements.

All courses in Computer Science, Mathematics, and Statistics must be completed with a grade of C or better.

Mathematics and Science Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COSC 2300 - Discrete Structures Credits: 3

  OR
- MATH 2300 - Discrete Structures Credits: 3
- Approved Science course - 4 credits
- Approved Science course - 4 credits
- Approved Math/Science Elective - 4 credits

  ABET requires a minimum of 30 Math/Science credit hours.

  Math elective means any MATH course above Calculus II or STAT courses 3000 and up.

  Exceptions: cannot count MATH 2350, MATH 2355, MATH 4000, STAT 4220 [Inactive] or any variable credit courses toward this requirement.

  Courses meeting the Science requirement must have a lab component and be for science or engineering majors. See Department web pages for a current list of approved courses.

Computer Science Courses

Introductory Programming Course - Choose one of:

- COSC 1010 - Computational Thinking and Programming Credits: 3

OR

- COSC 1015 - Introduction to Programming for Data Science Credits: 3

- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- EE 2150 - Computer Organization Credits:
- COSC 3011 - Introduction to Software Design Credits: 3
- COSC 3015 - Functional Programming Credits: 3
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- COSC 3050 - Ethics for the Computer Professional Credits: 1
- COSC 3765 - Computer Security Credits: 3

Theory Course - Choose one of:

- COSC 4100 - Foundations of Computing Credits: 3

OR

- COSC 4200 - Computability and Complexity Credits: 3

Operating Systems Course - Choose one of:

- COSC 4740 - Operating Systems Design Credits: 4

OR

- COSC 3750 - Linux Programming for System Applications Credits: 3

Programming Language Course - Choose one of:

- COSC 4780 - Principles of Programming Languages Credits: 3

OR

- COSC 4785 - Compiler Construction Credits: 3

Systems Course - Choose one of:

- COSC 4760 - Computer Networks Credits: 3

OR

- COSC 4820 - Database Systems Credits: 3

- COSC 4950 - Senior Design I Credits: 1
- COSC 4955 - Senior Design II Credits: 2

Electives

- 9 credits of COSC Electives (3000-level or above, not used to complete any other requirement)
- General Electives to reach 120 credits.

A total of 3 credits of COSC 3970 can be used.

Approved EE courses may also be taken as COSC electives. See Department web pages for a current list of approved courses.

General electives include any course at or above the 1000 level, not used to complete any other requirement.

Electives should be selected to meet the 42 hour requirement for Upper Division credits.

Computer Science Program Educational Objectives

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Computer Science - Student Learning Outcomes

The program of study in Computer Science enables students to achieve, by the time of graduation:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

Electrical Engineering, B.S.

Learn to design, develop, analyze, and create systems for a wide variety of fields, including power generation, control systems, communications, signal processing, and microprocessors.

Accreditation

The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- 3 credits of an approved Math/Science Elective [2]

Engineering Science and Computer Science

- ES 2110 - Statics Credits: 3 [3]
- ES 2120 - Dynamics Credits: 3 [3]
- ES 2210 - Electric Circuit Analysis Credits: 3
- COSC 1010 - Computational Thinking and Programming Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4075 - C++ with Numerical Methods for Engineers Credits: 4
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4440 - Communication Theory Credits: 3
- EE 4620 - Automatic Control Systems Credits: 3
- EE 4820 - Senior Design I Credits: 2 [4]
- EE 4830 - Senior Design II Credits: 2 [4]

Advisor Approved Electives

- 15 credits of EE or BE Electives (4000-Level or Above)
- 3 credits Approved Technical Electives.[5]
- 3 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

[2] One course from the ECE Math/Science Elective List. ABET requires a minimum of 30 hours of Math/ Science Electives.

[3] Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

[4] To meet the COM3 requirement with EE 4820 and EE 4830, the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[5] Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800

- Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all required mathematics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Electrical Engineering Program Educational Objectives

Graduates of the University of Wyoming
Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering - Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Electrical Engineering, F.M. Long Bioengineering, B.S.

An Elec. Eng. degree where electives are chosen so that students can design and develop instruments, devices, and software for medical equipment. With a few more courses, it can serve as a pre-med or pre-dental program.

Accreditation

The Electrical Engineering, F.M. Long Bioengineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

Engineering Science

- ES 2110 - Statics Credits: 3 [2]
- ES 2120 - Dynamics Credits: 3 [2]
- ES 2210 - Electric Circuit Analysis Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3

- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4075 - C++ with Numerical Methods for Engineers Credits: 4
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4820 - Senior Design I Credits: 2 [3]
- EE 4830 - Senior Design II Credits: 2 [3]

Bio-Engineering and Electives

- COSC 1010 - Computational Thinking and Programming Credits: 3
- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3

OR

- EE 4620 - Automatic Control Systems Credits: 3
- 3 credits of EE or BE Electives (4000-level or above)
- 3 credits Approved Technical Electives.[4]
- 2 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

[2] Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

3 To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[4] Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800.

- Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.

- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all mathmatics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Electrical Engineering -F.M. Long Bioengineering Program Educational Objectives

Graduates of the University of Wyoming Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering, F.M. Long Bioengineering Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Minor

Computer Engineering Minor

Adds value to one's major by equipping students with fundamental skills needed to design, analyze, and develop computer systems for a wide range of application domains.

Accreditation

The Computer Engineering Minor is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer and Similarly Named Engineering Program Criteria.

Minor Requirements:

You must have a minimum of 12 credits of courses that are not counted toward your major.

- COSC 2150 - Computer Organization Credits: 3
- EE 4490 - Hardware Descriptive Language (HDL) Digital Design Credits: 3
- 17 credits of electrical engineering (EE) or CPEN Elective courses.

COSC Courses

The following COSC courses can also be used:

- COSC 1010 - Computational Thinking and Programming Credits: 3

OR

- COSC 1015 - Introduction to Programming for Data Science Credits: 3

- COSC 1030 - Computer Programming Credits: 4

- COSC 2030 - Data Structures Credits: 0
- COSC 4760 - Computer Networks Credits: 3

Computer Science Graduate Minor

A graduate minor in Computer Science gives you the skills and knowledge to understand how software-intensive systems are designed and implemented. With these skills, you can use computers to extend the state of the art in your major discipline.

Requirements:

12 credits are required, and must be completed with a grade of B or better.

- COSC 5110 - Analysis Of Algorithms Credits: 3
- 9 additional credits of 5000-level computer science courses

Computer Science Minor

Add value to your degree by learning computing including programming, databases, mobile computing,

web applications, machine learning and artificial intelligence.

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Requirements

18 credits of Computer Science courses are required and must be completed with a grade of C or better.

COSC 1101 and COSC 1200 cannot be used for the Computer Science Minor.

Electrical Engineering Minor

The electrical engineering minor adds value to one's major by equipping students with fundamental skills in circuit design, signals and systems analysis, computer logic, or electromagnetic theory.

Electrical Engineering Minor Requirements:

You must have a minimum of 12 credits of EE/BE courses that are not counted toward your major.

- ES 2210 - Electric Circuit Analysis Credits: 3
- plus a total of 20 credits of electrical engineering (EE) or bioengineering (BE) courses

Graduate

Computer Science, M.S.

A master's degree that prepares students for careers in industry or for a PhD level education in Computer Sciences. Topics include: Analysis of Algorithms, AI, ML, Cybersecurity, and HCI.

Program Specific Degree Requirements

Plan A (Thesis)

A total of at least 31 credit hours must be completed. The student must complete a minimum of 27 hours of courses, including the CORE and BREADTH REQUIREMENTS. At least 19 credit hours must be COSC courses. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 6 hours of 4000-level courses, may be included with the approval of the supervising M.S. committee.

Plan A students are required to formally defend their theses before their supervising committees. All defenses must be open and announced at least two weeks in advance. The thesis must be distributed to the committee at least two weeks in advance of the defense. If the student does not pass the defense, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Plan B (Non-Thesis)

The student must complete a minimum of 33 hours of courses, including the CORE and BREADTH

REQUIREMENTS. At least 22 credit hours must be COSC courses. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 6 hours of 4000-level courses, may be included with the approval of the supervising M.S. committee.

UW Coursework Requirements for M.S. Transfer Students:

M.S. transfer students must complete at least 21 credit hours at the University of Wyoming. At least 12 credits of the CORE & BREADTH REQUIREMENTS must be taken at the University of Wyoming. No more than one class per category of breadth may be counted towards this 12-credit total. The algorithms course credits may be counted toward this 12-credit total.

Computer Science Breadth Requirements

Students must earn a grade of B or better in one class from the Theory category, one class from the Artificial Intelligence category, and two classes from the Systems category. Thus there must be 12 credits taken to satisfy the breadth requirement. A list of courses in each category is available from the department. Although some courses may be listed under multiple categories, a course may only count once towards the breadth requirement.

Computer Science Core Requirements

COSC5110 - Analysis Of Algorithms must be completed with a grade of B or better. A grade of B- is not sufficient. Students are strongly encouraged to take COSC 5110 the first time it is offered after enrollment.

Summary of Credit Requirements

Plan A

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits: 12
- Additional courses Credits: 12

- COSC 5960 - Thesis Research Credits: 1-12

OR

- COSC 5980 - Dissertation Research Credits: 1-12

Total Credits: 31 Hours

Plan B

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits: 12
- Additional courses Credits: 18

Total Credits: 33 Hours

Computer Science Quickstart B.S./M.S.

Enables well-qualified students to be admitted to the M.S. program during

the junior year of their B.S. program, and to work thereafter towards both

the B.S. and M.S. degrees in COSC.

Degree Requirements

Up to 6 credit hours from UW, at the 5000-level or above, may be

counted toward both the B.S. and M.S. degree programs.

Computer Science, Ph.D.

Prepares students to advance computing principles and practice. Specialties in AI, Complexity & Information Theory, Human-Computer Interaction, Cybersecurity, Machine learning, Computer Vision, and Distributed Computing.

Program Information

Each doctoral student will have a supervising committee of at least five members appointed. The primary functions of this committee are to suggest coursework, to administer the

qualifying, preliminary, and final examinations, and to oversee and evaluate the research of the candidate. The committee will consist of at least three members of the computer science department faculty and at least one non-COSC faculty member. The standards that this committee should consider when recommending programs of study are outlined in the following sections.

Coursework Requirements:

A total of at least 72 credit hours must be completed. A minimum of 42 of these credit hours must be taken as coursework, including the CORE and BREADTH REQUIREMENTS. A minimum of 12 hours of COSC5980 - Dissertation Research must be taken. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 12 hours of 4000-level courses, may be included with the approval of the supervising Ph.D. committee. All course requirements MUST be completed or enrolled with satisfactory midterm progress prior to scheduling the Ph.D. Final Examination.

UW Coursework Requirements for Ph.D. Transfer Students:

Ph.D. transfer students must complete at least 24 credit hours at the University of Wyoming. At least 12 credits of the CORE and BREADTH REQUIREMENTS must be taken at the University of Wyoming. No more than one class per category of breadth may be counted towards this 12-credit total. The algorithms course credits may be counted toward this 12-credit total.

Program:

A program of original and innovative research will be undertaken by the candidate. At the end of this program, the candidate will document this research in a dissertation. The dissertation will present the details and results of the candidate's research in addition to providing a critical comparison with relevant previously-published works.

Each successful doctoral student must pass three examinations. These include a qualifying examination, a preliminary examination, and a final (dissertation) defense.

Qualifying Exam Criteria:

The student must complete the CORE REQUIREMENT and pass a closed oral examination on a research area administered by the supervising committee. Although closed to the public, faculty members of the Department of Computer Science are welcome to attend. The exam must be announced to the faculty at least two weeks in advance. The research area will be chosen in consultation with the committee. The student must demonstrate background knowledge of the state of the art in the area and preliminary work. This will involve, but is not limited to, presenting material and answering questions covering the relevant area knowledge. The format of the exam will be defined by the committee prior to the exam to allow for sufficient preparation. This examination is intended to motivate the candidate to review relevant literature extensively prior to pursuing the original and innovative portions of the research. Qualifying exam criteria must be completed within the first two years of enrollment in the Ph.D program. If the student does not pass the qualifying exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass. The closed oral examination requirement may be waived for a student who has completed an M.S. degree in COSC at UW if their M.S. presentation was at a research level that demonstrated background knowledge of the state of the art in the area, at the discretion of the supervising Ph.D. committee.

Preliminary Exam Criteria:

Prior to scheduling the Preliminary Examination, the student must be making satisfactory progress towards completion of their course requirements, including the BREADTH REQUIREMENTS. A Preliminary Examination will consist of a presentation and defense of the alreadycompleted portion of the dissertation research and the research that is proposed to complete the dissertation. The Preliminary Examination must be open and announced at least two weeks in advance. The preliminary examination must be completed within two years of enrollment in the Ph.D program (within three years of enrollment for students who do not have an M.S. degree). This examination is intended to motivate the candidate to make significant progress on work towards their Ph.D. dissertation and propose milestones for completion. If the nature of the proposed continued research and methodology is deemed to be sufficiently original and innovative by the supervising committee, then the committee will approve the research direction after having administered this examination. If the student does not pass the preliminary exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Option for M.S. degree en route to Ph.D.:

After completing the Qualifying Exam and Preliminary Exam, a Ph.D. student may additionally earn an M.S. degree after completing the remaining M.S. course requirements, including the BREADTH REQUIREMENTS. COSC 5980 may be substituted for COSC 5960 in the M.S. requirements at the discretion of the supervising committee. The M.S. degree will be granted only after completion of the preliminary exam. For an M.S. degree to be granted prior to completion of the preliminary exam, the student should enroll in the M.S. degree program and complete the remaining M.S. requirements.

Final Exam Criteria:

Prior to scheduling the Ph.D. Final Examination (often referred to as a "defense"), all course requirements, including the BREADTH REQUIREMENTS, MUST be completed or enrolled with satisfactory midterm progress. The Final Examination (dissertation defense) will consist of an oral presentation by the candidate of his/her research and the results that were derived. At this examination, the candidate is expected to defend the research as being original and contributory to the discipline of computer science. The Final Examination must be open and announced at least two weeks in advance. The dissertation must be distributed to the supervising committee at least two weeks in advance of the Final Examination. If the student does not pass the final exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Time to degree for part-time students:

Exceptions to the completion deadlines for the Qualifying Exam and Preliminary Exam may be made for part-time students at the discretion of the supervising committee.

Computer Science Core Requirements

COSC5110 - Analysis Of Algorithms must be completed with a grade of B or better. A grade of B- is not sufficient. Students are strongly encouraged to take COSC 5110 the first time it is offered after enrollment.

Computer Science Breadth Requirements

Students must earn a grade of B or better in one class from the Theory category, one class from the Artificial Intelligence category, and two classes from the Systems category. A grade of B- is not sufficient. Thus there must be 12 credits taken to satisfy the breadth requirement. A list of courses in each category is available from the Department. Although some courses may be listed under multiple categories, a course may only count once towards the breadth requirement.

Program Specific Degree Requirements

Summary of Credit Requirements

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits:12
- Additional courses Credits: 27

- COSC 5960 - Thesis Research Credits: 1-12

OR

- COSC 5980 - Dissertation Research Credits: 1-12

- Other credits (may include courses or COSC 5960/COSC 5980) Credits: 18

Total Credits: 72 Hours

Electrical Engineering, M.S.

Designed to teach cutting-edge skills needed to excel, whether students enter the workforce or continue onto a PhD. Foci include: Computer Vision, Controls, Elec. Energy Systems, IoT, AI, and Robotics and Signal Processing.

Plan A (Thesis)

This is a minimum 30 credit hour program, 26 hours coursework and 4 hours of thesis

- Minimum 16 Course Hours in Electrical and Computer Engineering Course Work

- Minimum 3 Course Hours in Formal Course Work outside the Electrical and Computer Engineering Department approved by the student's committee
- 7 Additional Formal Course Hours in or out of the Electrical and Computer Engineering Department
- 4 credits of MS thesis research
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Of the above credit hours in formal coursework, no more than 12 credit hours can be 4000 level

The candidate must meet the minimum requirements for the Master of Science degree and also complete and defend a master's thesis.

Plan B (with Paper)

This is a 30 hour program:

- Minimum 18 Course Hrs in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hrs in Formal Course Work outside the Electrical and Computer Engineering Department
- 9 Additional Formal Course Hrs in or out of the Electrical and Computer Engineering Department
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Plan B (Coursework Only)

This is a 30 hour program:

- Minimum 18 Course Hrs in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hrs in Formal Course Work outside the Electrical and Computer Engineering Department
- 9 Additional Formal Course Hrs in or out of the Electrical and Computer Engineering Department
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Of the above credit hours in formal coursework, no more than 12 can be 4000 level.

Electrical Engineering, Ph.D.

Trains students to conduct research on innovative topics using cutting-edge tools and resources. Areas of foci include: Computer Vision, Controls, Electrical Energy Systems, IoT, AI, and Robotics and Signal Processing.

Degree Requirements

Ph.D. Degree Requirements:

Ph.D. Credit Allocation (all at 4000 level minimum)

- 72 hours (minimum) of acceptable graduate coursework
- 42 hours (minimum) from ECE and closely related formal course work (EE 5980 - Dissertation Research not counting toward this minimum)

Of those 42 hours, no more than 12 hours can be at the 4000 level

Courses required by the department bachelor of science degree may not be applied for graduate credit

- 6 hours (maximum) of EE 4800 - Problems in _____ can be counted for program of study credit
- 6 hours (maximum) of EE 5880 - Problems in ... can be counted for program of study credit
- 9 hours (maximum) of EE 5600 - Statistical Signal Processing in: can be counted for program of study credit.

In addition to the minimum requirements of the university, doctoral students must pass a written and oral comprehensive examination, part of which is a written proposal explaining their planned dissertation research. The student after completing successfully the oral comprehensive examination and before defending the completed dissertation must present their research work at an ECE department seminar. The student must also present and defend a completed dissertation. Programs of study, including coursework and any research tools, are arranged by consultation between the students and their graduate committee.

Certificate

Cybersecurity Certificate

Cybersecurity is the practice of ensuring the confidentiality, integrity, and availability of information within interconnected systems. The certificate in Cybersecurity prepares you for a career securing software-intensive systems.

Requirements

- COSC 2030 - Data Structures Credits: 0
- COSC 4010 - Special Topics in Computer Science Credits: 1-3 (3 credits required for certificate)
- COSC 4760 - Computer Networks Credits: 3
- COSC 3765 - Computer Security Credits: 3

- COSC 4820 - Database Systems Credits: 3
- STAT 2010 Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- STAT 4220 - Basic Engineering Statistics Credits: 3

Minimum Required: 20 Credits

Note: COSC 4760 can also be replaced by the ECE version ECE 4870 or a second COSC 4010 - Special Topics in Computer Science.

QuickStart Program

Electrical and Computer Engineering Quick Start, B.S./M.S.

Enables well-qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter towards both the B.S. and M.S. degrees in EE or CPEN.

Degree Requirements

Up to 6 credit hours from UW, at the 5000-level or above, may be counted toward both the B.S. and M.S. degree programs.

For further information please visit our Web site at http://www.uwyo.edu/electrical/graduate/prospective/ms/quickstart.html.

Department of Geology and Geophysics

Geography Program

122 Geology Building, (307) 766-3386
Web site: www.uwyo.edu/geography
Program Director: Mark T. Clementz

Professor Emeritus:

John L. Allen, William L. Baker, Ronald E. Beiswenger, Thomas Buchanan, Deborah D. Paulson, Gerald Webster

Faculty and Staff Affiliates:

Professors

R. MCGREGGOR CAWLEY, B.A. Kearney State College 1971; M.A. Colorado State University 1974; Ph.D. 1981; Professor of Political Science 1997, 1987.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.
THOMAS A. MINCKLEY, B.S. Northern Arizona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.
JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.
BRYAN N. SHUMAN, B.A. Colorado College1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

Associate Professors

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.
NICHOLAS CRANE, B.A. The Ohio State University 2006; M.A. 2008; Ph.D. 2014; Associate Professor of Geography and International Studies 2021, 2016.
ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Associate Professor of Geography and International Studies 2021, 2016.

The Geography Program is comprised of faculty from across the University of Wyoming campus with interests and expertise in geography and resource management. The program is transdisciplinary with a focus upon the following:

1.The origin and nature of the physical and cultural environment, how the physical environment and its natural resources form, and how the environment and natural

resources affect the quality of life.
2.The ways in which people and institutions affect natural resources and the environment.
3.The ways in which human institutions (e.g. political, economic, social) interact to produce diverse human landscapes.

Learning

The Geography Program has identified four fundamental goals of geography to emphasize in its undergraduate curriculum. These four goals are at the intersection of topically important areas in the discipline of geography. We continue to evaluate student learning in our program to insure our curriculum addresses these fundamental goals as effectively as possible.

Goal 1 - Human-Environment Interaction
Students will be able to identify and explain how humans modify the environment and affect Earth's biophysical systems through their human activities.

Goal 2 - Biophysical Systems
Students will be able to identify and explain an array of patterns, processes, and interactions in Earth's biophysical systems occurring at different spatial scales.

Goal 3 - Human-Cultural Systems
Students will be able to identify and explain an array of patterns, processes, and interactions across Earth's human landscapes at different spatial scales.

Goal 4 - Geographic Thought, Methods and Analysis
Students will understand basic geographic concepts and ideas, and will be capable of using them to inform their work. Students will also demonstrate the ability to select and use appropriate tools and techniques for addressing geographic problems and conducting geographic analysis. They will also be able to use multiple methods to examine, represent, and visualize Earth and its geographic characteristics.

The program offers a concentration in the university's interdisciplinary program, Environment and Natural Resources. A description of the concentration requirements is available online at the ENR website.

Geology and Geophysics

122 Geology Building, (307) 766-3386
FAX: (307) 766-6679

Web site: www.uwyo.edu/geolgeophys
Department Head: Mark T. Clementz

Professors:

MICHAEL J. CHEADLE, B.A. Oxford University 1981; M.S. Cornell University 1984; Ph.D. Cambridge University 1989; Professor of Geophysics 2021, 2001.

MARK T. CLEMENTZ, B.S. University of Missouri, Columbia 1996; Ph.D. University of California, Santa Cruz 2002; Professor of Geology 2017, 2005.

ELLEN D. CURRANO, B.S. University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Professor of Geology 2022, 2014.

DARIO GRANA, B.S. University of Pavia 2003; M.S. 2005; M.S. University of Milano Bicocca 2006; M.S. Stanford University 2013; Ph.D. 2013; Professor of Geophysics and the School of Energy Resources 2022, 2013.

BARBARA E. JOHN, B.A. University of California-Berkeley 1978; Ph.D. University of California-Santa Barbara 1987; Professor of Geology 2002, 1992.

JOHN KASZUBA, B.S. Beloit College 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines 1997; Professor of Geology and the School of Energy Resources 2019, 2008.

SUBHASHIS MALLICK, B.S. Indian Institute of Technology 1976; M.S. 1978; Ph.D. University of Hawaii 1987; Professor of Geophysics and the School of Energy Resources 2008.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Professor of Geology 2022, 2011.

THOMAS A. MINCKLEY, B.S. Northern Ari-zona University 1987; University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2012.

CLIFFORD S. RIEBE, B.S.E. University of Michigan 1992; Ph.D. University of California-Berkeley 2000; Professor of Geology 2020, 2008.

JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Professor of Geology 2019, 2005.

BRYAN N SHUMAN, B.A. Colorado College 1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2015, 2007.

KENNETH W. W. SIMS, B.A. Colorado College 1986; M.S. University of New Mexico 1989; Ph.D. University of California - Berkeley 1995; Professor of Geology 2014, 2009.

YE ZHANG, B.S. Nanjing University (PR China) 1998; M.S. University of Minnesota 2004; Ph.D. Indiana University 2005; Professor of Geology 2018, 2007.

Associate Professors:

PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; Associate Professor of Geophysics and the School of Energy Resources 2014, 2008.

KENNETH G. DUEKER, B.A. Whitman College 1984; Ph.D. University of Oregon 1994; Associate Professor of Geophysics 2006, 2000.

ANDREW PARSEKIAN, B.S. Dickinson College 2005; Ph.D. Rutgers University 2011; Associate Professor of Geophysics 2020, 2013.

Assistant Professors:

JOSEPH BIASI, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

MADELINE J. LEWIS, B.S. Indiana University, 2015; M.S. California Institute of Technology 2017; Ph.D. 2021; Assistant Professor of Geology 2023.

JAMIE MCFARLIN, B.A. Lawrence University, 2009; M.S. Northwestern University, 2016; Ph.D. Northwestern University, 2019; Assistant Professor of Geology 2022.

Research Scientists:

BRADLEY CARR, B.S University of Wisconsin-Madison 1987; Ph.D. University of Wyoming 1995; Associate Research Scientist Senior of Geophysics 2017, 2013.

KEVIN R. CHAMBERLAIN, B.A. Colgate University 1979; Ph.D. Washington University 1990; Research Professor of Geology 2004, 1990.

JANET C. DEWEY, B.S. Mississippi State University 1990; M.S. Auburn University 1993; Associate Research Scientist of Geology 2017, 2011.

LAURA VIETTI, B.S. University of Wyoming 2006; Ph.D. University of Minnesota 2014; Assistant Research Scientist of Geology 2015.

Lecturers:

ERIN E. KLAUK, B.S. Buffalo State University 2001; M.S. Montana State University 2007; Assistant Lecturer of Geology 2023

Adjunct Professors:

Sarah Aciego, Vladmir Alvarado, Tyler Brown, Erin Campbell, Barbara Carrapa, Jay Chapman, Carrick Eggleston, Eric Erslev, Peter H. Hennings, W. Steven Holbrook, Ranie Lynds, Beth McMillan,

Professors Emeriti:

James I. Drever, William E. Frerichs, B. Ronald Frost, Carol D. Frost, Robert R. Howell, Neil F. Humphrey, Jason A. Lillegraven, Ronald W. Marrs, Randi Martinsen, James E. McClurg, James D. Myers, Scott B. Smithson, Arthur W. Snoke, Ronald C. Surdam, Susan M. Swapp

Geology is the study of the origin, history and structure of the earth. Our undergraduate offerings encompass virtually every aspect of the science, with emphasis on current theory, methods, and applications. The philosophy of the department is to provide sound training in both theory and field observation, and to couple this background with a thorough education in modern laboratory, quantitative, and field techniques required for an understanding of geologic processes.

The setting of the university in the Rocky Mountains is ideal because some of North America's most outstanding geologic features are within a short drive of campus. The semiarid climate in Wyoming has resulted in excellent exposures of diverse rock types ranging in age from Precambrian to Recent. Deformation of the rocks in the region has been extensive, affording the student a field laboratory that exhibits a wide diversity of styles of faulting and folding. Mineral deposits, petroleum resources, and coal abound in the region.

Undergraduate Majors

The Bachelor of Science in geology is designed for those students who intend to become professional geologists and/or those who plan to attend graduate school in geosciences. The program includes courses normally expected of graduate school applicants, including a summer field camp and courses in related sciences and mathematics. This degree program prepares students for the examination for the professional geologist license.

The Bachelor of Arts in geology and Earth sciences is specifically designed for undergraduates who wish to study Earth sciences as a foundation for careers in a variety of areas, such as environmental law, natural resource business, land use planning, Earth science education, science journalism, and many governmental positions. The B.A. program includes a broad spectrum of courses, and focuses both on information about the Earth and on how society makes decisions that affect the Earth system.

The Bachelor of Science in Environmental Geology and Geohydrology is designed for those students who intend to become professionals in environmental fields such as consulting, site assessment, hazard assessment, and remediation. The degree will prepare students for graduate school in environmental disciplines and for entry-level jobs.

Majors in any of the degree programs above may also choose to declare an affiliated degree with the School of Environment and Natural Resources by completing degree requirements for both degrees. Students should consult the section on the School of Environment and Natural Resources.

The Department of Geology and Geophysics also participates in the Earth System Science interdisciplinary program by offering a concentration in geology for the B.S. degree in ESS. Students interested in this major should consult the section on Earth System Science for curriculum requirements.

Geology Program Objectives: Bachelor of Science

The primary mission of our B.S. geology program is to provide a quality educational experience that prepares men and women to enter careers in geology and related fields. We expect that our graduates should:

• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science.

• Be able to apply basic scientific and technical knowledge to

specific tasks and problems.
• Cultivate the specific scientific and technical skills that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity in the skills of independent learning, critical thinking, problem definition, and problem solving.
• Develop enhanced numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in their workplace and in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Science

The department of Geology and Geophysics has the following specific goals for its B.S. program:
• Students in the B.S. program will receive a quality preparatory education in the discipline that is current, relevant, practical, and personal.
• B.S. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.S. students who graduate with appropriate grades will be well prepared for entry-level positions as professionals within their and other related disciplines.

Geology Program Objectives: Bachelor of Arts

The primary mission of our B.A. geology program is to provide a broad educational experience that prepares men and women for careers in earth science-related fields. We expect that our graduate should:
• Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science-related fields.
• Be able to apply their knowledge to specific situations or problems.
• Cultivate the skills and ethics that will allow them effectively to serve their employers and to enhance their own career development.
• Develop increased capacity for independent learning, critical thinking, and problem-solving.
• Develop basic numerical skills and computer literacy as

part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
• Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in the work environment, both in individual and team-related activities.
• Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Arts

The department of Geology and Geophysics has the following specific goals for its B.A. program:
• Students in the B.A. program will receive a broad preparatory education in earth science and related fields that is current, relevant, practical, and personal.
• B.A. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
• B.A. students who graduate with appropriate grades will be well prepared for entry-level positions in the geosciences and other related disciplines.

Required Academic Performance

In order to graduate with a Bachelor of Science or Bachelor of Arts degree in geology, the student must earn a letter grade of C (S where appropriate) or better in each course listed herein as part of the required course programs. This grade requirement applies to course work taken outside the department, as well as to transfer courses credited in lieu of resident requirements.

Undergraduate Minor

A minor in geology requires 18 hours of coursework in the Department of Geology and Geophysics. Students are required to take one GEOL 1000-level course; one GEOL 2000-level course; and fulfill remaining hours with GEOL 2000-level or higher courses in consultation with their adviser. A grade of C or better is required in each of these courses.

Graduate Study

The department offers instruction and research programs leading to master of science and doctor of philosophy degrees in both geology and geophysics and to the master of science in geology/water resources.

Program Specific Admission Requirements

All applicants must complete an online departmental application form with statement of intent. Forms are available from the Department of Geology and Geophysics Web site at www.uwyo.edu/geolgeophys.

Application deadline is January 15 of each year.

All applicants should have completed undergraduate coursework including mathematics through calculus, one year of chemistry, basic training in geology, and for most areas, one year of calculus-based physics.

Applicants to the geophysics graduate program should have an undergraduate degree in geophysics, geology, mathematics, physics, or engineering.

Applicants to the Ph.D. program, without a M.S. degree, must have attained an exceptional undergraduate record.

Formal approval of application by the departmental admissions committee.

Formal acceptance by an adviser.

Formal notice of admission by the university.

Program Specific Graduate Assistantships

All applicants to the geology and geophysics graduate program are considered for assistantships. Applicants are NOT required to complete the graduate assistant application form.

Program Specific Degree Requirements

Master of Science in Geology

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Master of Science in Geophysics

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Doctor of Philosophy in Geology (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure

of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Doctor of Philosophy in Geophysics (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210 Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Master of Science in Geology/Water Resources and Master of Science in Geophysics/Water Resources

Please refer to the Water Resources section of the *Catalog* for degree requirements.

Major

Environmental Geology and Geohydrology, B.S.

The Environmental Geology and Geohydrology degree is intended for students interested in becoming professionals in environmental fields and will prepare students for graduate school and careers in environmental disciplines.

Degree Requirements

This degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3

- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

One of the Following:

- GEOL 1005 - Earth History Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1200 - Historical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

And Each of the Following:

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GEOL 4140 - Diversity Inclusion Geoscience Credits: 1

  (OR 1 course with an ASD-Diversity or ASG-Global Awareness Attribute)
- GEOL 4444 - Geohydrology Credits: 4
- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4777 - Geochemistry of Natural Waters Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3
- GEOL 4820 - Capstone Credits: 3

Required Allied Math and Science Courses

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4

  OR
- PHYS 1210 - Engineering Physics I Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4

One of the Following:

- LIFE 1010 - General Biology Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- MATH 2210 - Calculus III Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Additional Electives

Additional 18 credit hours of Electives, in consultation with advisor

- GEOL 2005 - Intro to Geophysics Credits: 4

OR

- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3450 - Weather and Climate Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3550 - Natural Hazards and Society Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOL 4441 - Advanced Climate Variability Credits: 3
- GEOG 4460 - Biogeography Credits: 3
- GEOL 4525 - Environmental Data Analysis Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4

Note:

Students are encouraged, in consultation with their adviser, to design a major that best fits their interests and goals. With this in mind, there are many courses outside the Department of Geology and Geophysics that may be substituted for courses in the Electives (B) list above provided that such substitutions are made with the consent of an adviser. A list of such courses may be obtained from the Department. Students who seek the Geology BS may not also seek EGGH as a double major, and vice versa.

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements.

Geography, B.S.

A Geography B.S. offers students interdisciplinary training to understand phenomena across a range of scales to critically solve grand challenges that intersect science, nature, culture, economy, politics, and technology.

Degree Requirements

This degree requires **120** credits, **42** of which are upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Core Requirements (9-11 credits)

- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3

- GEOG 1010 - Introduction to Physical Geography Credits: 3

OR

- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

- GIST 1200 - Geospatial Foundations Credits: 3

OR

- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Content Areas (26 Credits)

Breadth: Complete a minimum of ONE course from THREE of the four content areas.

Depth: Complete a minimum of TWO courses from TWO of the four content areas.

Remaining credits to reach 26 in consultation with academic advisor (~13-15 credits).

Human Geography Content

- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4013 - Political Geography Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- GEOG 4560 - Global Cities Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3
- GEOG 4590 - Geography of Conflicts Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3

Physical Geography Content

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4450 - Fluvial Geomorphology Credits: 4
- GEOG 4460 - Biogeography Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4

- GEOL 4880 - Earth Surface Processes Credits: 3

Geographic Information Science (GIS) Content

Accepting any 3-4 credit GIST course in this category.

Transdisciplinary Content

- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4590 - Geography of Conflicts Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- INST 3860 - World Food, Ag, & Development Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4580 - Gender, Global Change, and Development Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ZOO 4440 - Limnology Credits: 3

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements.
- At least 15 credits of completed program requirements should be at the upper division level.
- Sophomore year: Students are encouraged to discuss study abroad opportunities with their advisor, mentor, and study abroad office.

Geology and Earth Science, B.A.

The B.A. in Geology and Earth Science provides students with a broad educational experience in preparation for careers in earth science-related fields.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

Each of the following:

- GEOL 1000-level intro lab course(s) Credits: 4-8
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 4820 - Capstone Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- MATH 1405 - Trigonometry Credits: 3

  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5

Six Courses from the Following

- ATSC 2000 - Introduction to Meteorology Credits: 4

  OR
- GEOG 3450 - Weather and Climate Credits: 3

- ECON 2400 - Economics of the Environment Credits: 3
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOL 2005 - Intro to Geophysics Credits: 4

OR

- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 2050 - Principles of Paleontology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 4444 - Geohydrology Credits: 4
- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4835 - Applied/Exploration Geophysics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ECON 4400 - Environmental Economics Credits: 3

OR

- ECON 4410 - Natural Resource Economics Credits: 3

Additional Electives

Additional 12 hours of electives with adviser consultation, at least 6 hours of which must be taken outside of the Department of Geology and Geophysics.

Geology, B.S.

A Geology B.S. provides students scientific and technical skills via hands-on courses, field, and lab experiences to develop critical economic and environmental solutions for use in graduate programs and professional careers.

Degree Requirements

This degree requires **120** credits, **42** of which must be upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

Note: This program represents a minimum proficiency. Students are strongly advised to elect additional courses in geology.

One of the Following:

- GEOL 1005 - Earth History Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1200 - Historical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

And Each of the Following:

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

- GEOL 2005 - Introduction to Geophysics Credits: 4

OR

- GEOL 3005 - Principles of Geophysics Credits: 4

- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4

- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GEOL 4140 - Diversity Inclusion Geoscience Credits: 1

  (OR 1 course with an ASD-Diversity or ASG-Global Awareness Attribute)
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4717 - Field Course in Geology Credits: 1-8

  (6 credits of offered field camp courses are required, to be taken in 1 of the last 2 summers on campus).
- GEOL 4820 - Capstone Credits: 3

Geology Electives

Additional 22 credit hours in Geology courses at 2000-level and above:

Allied Math and Sciences Credits

- CHEM 1020 - General Chemistry I Credits: 4

  OR
- CHEM 1050 - Advanced General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

  OR
- CHEM 1060 - Advanced General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4

  OR
- PHYS 1210 - Engineering Physics I Credits: 4

Option A: Fundamental Math

- GEOL 2120 - Quantitative GeoMethods Credits: 3

  AND
- MATH 2200 - Calculus I Credits: 4

Option B: Advanced Math

- MATH 2200 - Calculus I Credits: 4

  AND
- MATH 2205 - Calculus II Credits: 4

  OR
- MATH 2250 - Elementary Linear Algebra Credits: 3

  OR

- GEOL 4250 - Mathematical Geosciences Credits: 3

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements

Minor

Geography Minor

The Minor in Geography program provides students with foundational knowledge in geography while allowing them to focus on the areas of physical geography, human geography, and natural resource management.

Core Content (10 Credits)

Each of the following:

- GEOG 1010 - Introduction to Physical Geography Credits: 3

OR

- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3

- GIST 1200 - Geospatial Foundations Credits: 3

OR

One Course from each of the following 2 areas (9 Credits)

Human Geography

- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3

- GEOG 4013 - Political Geography Credits: 3
- GEOG 4500 - The American Landscape Credits: 3
- GEOG 4502 - Images of Wyoming and the West Credits: 3
- GEOG 4550 - Geography of Wine Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3

Physical Geography

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- GEOG 4450 - Fluvial Geomorphology Credits: 4
- GEOG 4460 - Biogeography Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3

3 Credits in Geography electives

GEOG coures 1000-6000 level

Geology Minor

A minor in geology is intended for those students majoring in other programs who are interested in complementing their degree with a broader understanding of geology and the earth sciences.

Required Courses

Students are required to take 18 hours of coursework in the Department of Geology and Geophysics including one GEOL 1000-level course (3-4); one GEOL 2000-level course (3-4); **and fulfill the remaining credit hours (10-12) with GEOL 2000-level or higher courses in consultation with their adviser.** A grade of C or better is required in each of these courses.

- GEOL 1005 - Earth History Credits: 4

OR another 1000-level GEOL course **Credits / Units:** 3-4

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

OR another 2000-level GEOL course **Credits / Units:** 3-4

AND fulfill remaining credits with 2000-level or higher GEOL courses in consultation with thier adviser. **Credits / Units:** 10-12

Graduate

Geology, M.S.

Plan A (Thesis)

(26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 - Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Geology, Ph.D.

(42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 - Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Geophysics, M.S.

Plan A (Thesis)

(26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be

completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 - Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Geophysics, Ph.D.

(42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 - Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Department of Mathematics and Statistics

Mathematics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats/
Department Head: Jason Williford

Professors:

GABRIELLE ALLEN, B.S. University of Nottingham 1988; M.S. University of Cambridge 1989; Ph.D. Cardiff University 1993; Professor of Mathematics 2020.

CRAIG C. DOUGLAS, B.A. University of Chicago 1977; M.S. Yale University 1978; M.Phil. 1981; Ph.D. 1982; SER Professor of Mathematics 2008.

VICTOR GINTING, B.S. Institut Teknologi Bandung Indonesia 1995; M.S. Texas A&M University 1998; Ph.D. 2004; Professor of Mathematics 2017, 2007.

STEFAN HEINZ, B.S. Humboldt University 1985; M.S. 1986; Ph.D. Heinrich-Hertz Institute 1990; Professor of Mathematics 2013, 2004.

LONG LEE, B.S. National Taiwan University, Taipei 1988; M.A. University of Maryland 1998; Ph.D. University of Washington 2002; Professor of Mathematics 2018, 2005.

RONGSONG LIU, B.A. Henan Normal University 1999; M.A. Fudan University 2002; Ph.D. York University 2006; Associate Professor of Mathematics and Program in Ecology 2015, 2009.

G. ERIC MOORHOUSE, B.S. University of Toronto 1980; M.S. 1984; Ph.D. 1987; Professor of Mathematics 2011, 1989.

ZHUANG NIU, B.S. Wuhan University 1998; M.S. 2001; Ph.D. University of Toronto 2005; Associate Professor of Mathematics 2021, 2012.

BRYAN L. SHADER, B.S. University of Wyoming 1984; M.S. University of Wisconsin-Madison 1987; Ph.D. 1990; Professor of Mathematics 2000, 1990.

JASON WILLIFORD, B.A. University of Pennsylvania 1998; Ph.D. University of Delaware 2004; Associate Professor Mathematics 2014, 2009.

Associate Professors:

MICHELLE T. CHAMBERLIN, B.S. Colorado State University 1997; M.S. 1999; Ph.D. Purdue University 2002; Associate Professor of Mathematics 2012, 2007.

FREDERICO da CUNHA FURTADO, B.S. Federal University of Minas Gerais 1979; M.S. Federal University of Rio de Janeiro 1984; Ph.D. Courant Institute 1989; Associate Professor of Mathematics 2002, 1997.

TYRRELL McALLISTER, B.S. University of California, Davis 2001; Ph.D. 2006; Associate Professor of Mathematics 2015, 2009.

DAN STANESCU, B.Eng. Polytechnic Institute, Romania 1986; M.Eng. McGill University, 1994; Ph.D. Concordia University 1999; Associate Professor of Mathematics 2008, 2003.

MAN-CHUNG YEUNG, B.S. Jinan University, China 1986; M.Ph. University of Hong Kong 1990; Ph.D. University of California-Los Angeles 1997; Associate Professor of Mathematics 2005, 2001.

Assistant Professor:

DANE TAYLOR, B.S. University of Wyoming 2008, Ph.D. University of Colorado Boulder 2013, SoC Assistant Professor of Mathematics 2023.

PING ZHONG, B.S. Huanzhong University 2005; M.S. Peking University 2008; Ph.D. Indiana University 2014; Assistant Professor of Mathematics 2018.

Senior Lecturers:

DAVID ANTON, B.S. North Dakota State University 2001; M.S. University of Wyoming 2007; Senior Lecturer in Mathematics 2017, 2005.

WILLIAM WEBER, B.S. Colorado State University 1979; B.S. University of Wyoming 1988; M.S. 1992; Senior Lecturer in Mathematics 2012, 2001.

Associate Lecturer:

NATHAN CLEMENTS, B.S. Brigham Young University-Idaho 2007; M.S. Idaho State University 2009; D.A. 2012; Associate Lecturer in Mathematics 2019, 2012.

Assistant Lecturer:

CHRISTINA G. KNOX, B.S. California State Polytechnic University, Pomona 2012; M.S. 2014; Ph.D. University of California, Riverside, 2019; Assistant Lecturer of Mathematics 2019.

JORGE FLORES-MATUTE, B.S. Chadron State College 2015; M.S. University of Wyoming 2018; Assistant Lecturer of Mathematics 2020.

CEDAR WISEMAN, B.S. University of Wyoming 2017; M.S. University of Wyoming 2020; Assistant Lecturer of Mathematics 2022.

Adjunct Professors:

Saman Aryana, Hakima Bessaih, Li Deng Douglas, George Elliot, Benedetta Ferrario, Maria Garrido-Atienda, John Hitchcock, Robert Kansky, David Meyer, Bjorn Schmalfuss, Gerald Schuster, Dongwoo Sheen

Professors Emeriti:

Charles Angevine, Leonard Asimow, Robert Buschman, Benito M. Chen-Carpentier, George C. Gastl, John H. George, Sylvia A. Hobart, Syed Husain, Peter Polyakov, A. Duane Porter, Ben G. Roth, John Rowland, Chanyoung Lee Shader, Raymond Smithson, John Spitler, Myron B. Allen III, Farhad Jarari.

> **"For the things of this world cannot be made known without a knowledge of mathematics."--Roger Bacon**

Virtually every student at UW will take one or more math courses to fulfill graduation requirements. The intent is to illustrate the esthetics inherent in mathematics, and to provide students with the quantitative skills needed for today's careers.

Mathematics majors receive a broad and deep view of the mathematical sciences. They develop their mathematical thinking and communications skills in algebra, analysis, and applied math. They learn a variety of technological tools necessary for jobs in education, business, government, and industry. In addition to our math classes, the department offers a variety of opportunities to enrich the undergraduate experience. Students can participate in weekly seminars, summer research projects, Putnam Team competitions, and the math club.

Mathematics Placement

All UW math courses have prerequisites which are detailed in the course listings below. These are to assure that each student has the best possible opportunity for success in the course. In accordance with this, *all students registering for a math course will have their records checked in order to determine whether the prerequisite is satisfied.*

A computerized prerequisite check is run prior to the start of every semester. *Students who preregistered for a math course but have not satisfied the prerequisites at the time of the check will be automatically dropped from the course.*

Prerequisites for courses numbered 2200 or lower (except MATH 1105 and MATH 2120), and MATH2350 - Business Calculus, may be satisfied in one of four ways:

- Obtain a grade of C or better in a prerequisite course. Note that noncredit courses from out-of-state colleges are not accepted as prerequisites.
- Pass the Mathematics Placement Exam (MPE) at the stated level within one year of the start of the course.
- Obtain a sufficiently high score on one of the following standardized exams within three years of the start of the course: ACT math score or SAT quantitative score.
- Obtain a sufficiently high score on one of the following standardized exams: AP Calculus, CLEP, or IB.

Duplication of Courses (MATH 1400, MATH 1405, MATH 1450)

To avoid loss of credit because of duplication of course content, please note the following: (a) students with credit for both MATH 1400 and MATH 1405 will not receive new credit by taking MATH 1450; (b) students with credit for one of MATH 1400 or MATH 1405 will receive only 2 additional credits by taking MATH 1450; (c) students with credit for MATH 1450 will receive only 1 additional credit by taking both MATH 1400 and MATH 1405. Note that the GPA calculation for these situations is unusual, and students should ask the Registrar's Office for details.

Note that MATH 1450 counts as one attempt at each of MATH 1400 and MATH 1405 for the purposes of repeating classes.

Graduate Study

The Mathematics Program offers programs leading to the degrees of master of arts, master of science, master of arts in teaching, master of science in teaching, and the doctor of philosophy.

The requirements for these degrees reflect our belief that mathematicians should have a broad foundation in the core areas of algebra, analysis, and applied mathematics as well as the experience of a more intensive investigation of a specialized area. We provide this within a flexible structure that recognizes the individual interests and varied backgrounds of our students.

Program Specific Admission Requirements

To be competitive for admission, applicants must have strong backgrounds in mathematics. Generally, this means a bachelor's degree in mathematics or a closely related discipline. All applicants should have substantial coursework beyond the calculus sequence; courses in differential equations, linear algebra, and, in particular, courses in abstract algebra and analysis are highly recommended. A solid performance on the GRE Subject Test in Mathematics can demonstrate the applicant's mastery of these subjects. The GRE Subject Test in Mathematics is therefore recommended but is not required.

The GRE General Test is required, with a minimum Quantitative Reasoning score of 157 and Verbal score of 143. International applicants need a composite TOEFL score of 76 or an IELTS score of 6.5.

ETS only reports TOEFL scores taken within two years of the date of request.

Graduate Assistantships

The mathematics program employs approximately 22 graduate assistants each year. Assistantships include a full tuition and fee waiver, a monthly living stipend, and health insurance. Ph.D. students normally receive a higher stipend than master's students.

Teaching assistants teach or assist with the teaching of an undergraduate course each semester.

Students may also compete for research assistantships, provided that their interests align with an externally funded research project.

Summer support is not guaranteed but is usually available through teaching and research opportunities.

Statistics

223 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats
Program Director: Tim Robinson

Professors:

TIMOTHY J. ROBINSON, B.S. James Madison University 1989; M.S. Virginia Tech 1994; Ph.D. 1997; Professor of Statistics 2012

SHAUN S. WULFF, B.S. Montana State University 1991; M.S. 1994; Ph.D. Oregon State University 1999; Professor of Statistics 2019, 1999.

Assistant Professors:

MARIE-AGNES S. TELLIER, B.S. Florida Institute of Technologies 2000; MS Florida Institute of Technology 2002; M.S. University of Wyoming 205; Ph.D. University of Wyoming 2018; Assistant Professor of Statistics 2023.

Assistant Lecturer:

MICHELE BIRD, B.A. University of Nevada, Las Vegas 1996; M.A. 2000; Assistant Lecturer of Statistics 2019.

JARED STUDYVIN, B.S University of Wyoming 2009; Ph.D. University of Wyoming 2015; Assistant Lecturer 2021.

Adjunct Professors:

Emeriti Faculty:

Stephen L. Bieber, Burke Grandjean, Richard Anderson-Sprecher, Kenneth Gerow

The curriculum in statistics includes a firm foundation in mathematics and computer science, in addition to course work in statistical theory and methodology. Graduating statistics majors at the University of Wyoming are expected to demonstrate the ability to identify and utilize appropriate statistical methods for finding data-driven solutions to a wide variety of real-life and scientific questions. In order to demonstrate these abilities, the graduating Statistics major must be trained in statistical theory, computational techniques and courses which emphasize the use of statistical methods in problem solving.

Statistical Theory

A strong background in statistical theory is crucial for a practicing statistician. It is the primary aspect that separates the consultant from the client. More specifically, it allows a statistician to generalize statistical procedures, formulate models (and associated assumptions), perform advanced statistical computation, and formalize interpretation of results. The statistical theory prerequisites are notably covered in the undergraduate courses STAT 4255 (Mathematical Theory of Probability), STAT 4265 (Introduction to the Theory of Statistics), and MATH 2250 (Elementary Linear Algebra).

Computation Techniques

The professional field of Statistics is highly computational. Associated computational skills involve coding, debugging, and programming beyond just class scripts provided to

students in the undergraduate courses. The open-source R environment is primarily used in the graduate courses due to its popularity, availability, and capabilities (both statistical functions and programming). Thus, students are expected to have basic R program skills related to data management, statistical functions, and post-processing of output. These R based skills are covered in all of the upper division courses, particularly core courses such as 4015 (Regression Analysis), STAT 4025 (Design and Analysis of Experiments I), and 4045 (Categorical Data Analysis). The STAT 4015 and 4025 courses should be taken as soon as possible in the curriculum as these courses provide foundational content for nearly all of the upper division Statistics courses.

Interpretation of Results

An important aspect of applied statistics is to be able to interpret results of statistical analyses and express those interpretations clearly, accurately, and technically. Thus, these interpretations need to be in line with statistical theory (inference) and yet be clearly expressed to both statisticians and applied scientists. Thus, the undergraduate Statistics graduate is expected to be familiar with the statistical interpretation of results from the applied statistical courses, so that they can better understand the rationale underlying formal statistical interpretation and to develop the required skills to provide such interpretations independently.

University of Wyoming Statistics majors experience excellent job and/or graduate school placement. Our graduates have taken positions n industry, government, the sciences (social, biological, physical, and health), as well as engineering and education.

The statistics program also offers graduate programs leading to a graduate minor in statistics, and to a Master of Science (Plan B) in statistics.

Graduate Study

The Statistics Program offers graduate programs leading to a graduate minor in statistics, and to a master of science in applied statistics (Plan B). The minor is designed to enhance the M.S. or Ph.D. program of any student enrolled in one of the graduate programs at the University of Wyoming. All of these programs emphasize the understanding and application of a broad variety of statistical methods on real projects. Students will be provided with numerous opportunities to perform analyses and communicate findings. The MS Statistics program is specifically designed to prepare students to be effective statistical consultants and data scientists.

Program Specific Admission Requirements

The prerequisite for admission to graduate study is an undergraduate degree from an accredited institution, including work in mathematics through calculus III, Linear Algebra and at least one second-level class in statistical methods. Prospective students are encouraged to have had Math Analysis and upper level introduction to probability and mathematical statistics. Students who do not have prerequisites in mathematics and statistics may make up this deficiency at the beginning of their graduate program; however, such work does not count toward graduation requirements.

Major

Mathematics, B.A.

A comprehensive math degree with training in the fundamentals of proofs, analysis, algebra, computation and math modeling. Provides a strong background for teaching, work in industry and graduate programs in math.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

These courses, known as the transition courses, introduce students to the three main areas of mathematics research currently represented in the department.

At the upper division, all mathematics majors must take:

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
- MATH 3340 - Introduction to Scientific Computing Credits: 3

Depth Course

Every mathematics major must select one course that builds on the corresponding transition course. This sequence provides the student with an opportunity to study one of these areas in greater depth.

- MATH 4200 - Analysis 2: Advanced Analysis Credits: 3

OR

- MATH 4205 - Analysis 3: Undergraduate Topics in Analysis Credits: 3

OR

- MATH 4510 - Algebra II: Introduction to Group Theory Credits: 3

OR

- MATH 4520 - Algebra III: Topics in Abstract Algebra Credits: 3

OR

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

OR

- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3

Upper Division Math Courses

Finally, an additional 15 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Mathematics, B.S.

A comprehensive math degree with training in the fundamentals of proofs, analysis, algebra, computation and math modeling. Provides a strong background for teaching, work in industry and graduate programs in math.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Lower Division Core Courses

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- MATH 2205 - Calculus II Credits: 4
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Upper Division Math Courses

Finally, an additional 15 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Statistics, B.S.

Statisticians (data scientists) provide analytic solutions to scientific problems. Statistics is the process of using data to answer a research question. The B.S. in Statistics is applied with some theory.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
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- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

30 Hours of Statistics - Required Courses:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3
- STAT 4255 - Mathematical Theory of Probability Credits: 3
- STAT 4265 - Introduction to the Theory of Statistics Credits: 3
- STAT 4300 - Applied Multivariate Analysis Credits: 3
- STAT 4870 - Senior Thesis Credits: 3

Optional from (12 Hours)

- STAT 4005 - Data Wrangling Credits:
- STAT 4045 - Categorical Data Analysis Credits: 3
- STAT 4070 - Causal Models Credits: 3
- STAT 4115 - Time Series Analysis and Forecasting Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- STAT 4270 - Applied Bayesian Statistics Credits: 3
- STAT 4350 - Survey Construction and Analysis Credits: 3
- STAT 4360 - Spatial Statistics Credits: 3
- STAT 4370 - Survival Analysis Credits: 3
- STAT 4460 - Statistical Software Credits: 1
- STAT 4880 - Problems in Statistics Credits: 1-4

Mathematics (15 Hours)

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3

Computer Science (6 Hours)

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1030 - Computer Programming Credits: 4

Electives

- Chosen so that at least 42 hours are at the 3000/4000/5000 level

Total Hours: at Least 120

Only grades of C or better will be accepted for the major.

Minor

Mathematics Minor

The minor in mathematics focuses on fundamental aspects of mathematics that are essential for further study in mathematics and a variety of other disciplines. Students may customize the minor by choosing the appropriate transition course and upper-division electives.

Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

- MATH 2250 - Elementary Linear Algebra Credits: 3

AND

- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the minor.

At the upper division, all mathematics minors must take ONE of

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3

OR

- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3

OR

- MATH 3340 - Introduction to Scientific Computing Credits: 3
- as well as 3 additional credits of upper division math courses (3000 and above)

Statistics Minor

Statisticians (data scientists) provide analytic solutions to scientific problems. Statistics is the process of using data to answer a research question. The B.S. in Statistics is applied with some theory. The minor of Statistics is all application.

Requirements

The following courses are required for a statistics minor:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3

9 Additional Hours from the Following:

- STAT 4005 - Data Wrangling Credits:
- STAT 4045 - Categorical Data Analysis Credits: 3
- STAT 4070 - Causal Models Credits: 3
- STAT 4115 - Time Series Analysis and Forecasting Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- STAT 4255 - Mathematical Theory of Probability Credits: 3
- STAT 4265 - Introduction to the Theory of Statistics Credits: 3
- STAT 4350 - Survey Construction and Analysis Credits: 3
- STAT 4360 - Spatial Statistics Credits: 3
- STAT 4370 - Survival Analysis Credits: 3
- STAT 4300 - Applied Multivariate Analysis Credits: 3

- STAT 4270 - Applied Bayesian Statistics Credits: 3

Total: 18-19 Hours

Only grades of C or better will be accepted for the minor.

Graduate

Mathematics, M.A.

A comprehensive mathematics degree, with training in the fundamentals of analysis, abstract algebra, computation, and mathematical modeling. Provides a strong foundation for

teaching, work in industry, and continued study in graduate-level programs.

Common Requirements

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division undergraduate level and is offered before the beginning of each semester.
- Take one hour of the seminar MATH 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970: Professional Development in Teaching.

5000-level Mathematics Courses

As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3
- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Tracks:

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960 - Thesis Research. At least 26 hours of 5000-level coursework must be mathcontent courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty member. The thesis should describe the

research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.
- Pass one of the department's qualifying exams in:

Analysis

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

Algebra

- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Applied Mathematics

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3

Mathematics, M.A.T.

Applicants are required to have:

- A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;
- courses equivalent to MATH 3205, MATH 3500, MATH 4000 and MATH 4600;
- a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Mathematics, M.S.

A comprehensive mathematics degree, with training in the fundamentals of analysis, abstract algebra, computation, and mathematical modeling. Provides a strong foundation for teaching, work in industry, and continued study in graduate-level programs.

Common Requirements

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division undergraduate level and is offered before the beginning of each semester.
- Take one hour of the seminar MATH 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970: Professional Development in Teaching.

5000-level Mathematics Courses

As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3
- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Tracks:

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960 - Thesis Research. At least 26 hours of 5000-level coursework must be mathcontent courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty member. The thesis should describe the research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.

- Pass one of the department's qualifying exams in:

Analysis

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

Algebra

- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Applied Mathematics

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3

Mathematics, M.S.T.

Applicants are required to have:

- A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;
- courses equivalent to MATH 3205, MATH 3500, MATH 4000 and MATH 4600;
- a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Mathematics, Ph.D.

A rigorous PhD program in mathematics, culminating in an original research project. Math PhDs have excellent career prospects in a variety of settings, including academia, industry, research, engineering, economics and government.

Mathematics PhD Information

The student must maintain a 3.0 cumulative GPA.

The student must teach two semesters of college mathematics.

The student must complete a combination of 72 hours of coursework and dissertation research. Within the 72 hours, a

maximum of 12 hours can be at the 4000 level, and 42 hours must be formal courses at the 5000 level. The courses must be mathematics courses or courses with significant mathematical content, as approved by the department's graduate committee.

The Student Must Complete

Within the 42 hours of 5000-level courses, the student must:

- Complete the courses distributed in three areas: algebra, analysis, and applied mathematics. The student must take at least two courses in each of two categories and at least one course from the third category. The department maintains a list of course categories.
- MATH 5200 - Real Variables I Credits: 3 with a grade of B or better
- MATH 5230 - Complex Variables I Credits: 3 with a grade of B or better
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3 with a grade of B or better
- MATH 5400 - Methods of Applied Mathematics I Credits: 3 with a grade of B or better
- MATH 5500 - Advanced Linear Algebra Credits: 3 with a grade of B or better
- MATH 5550 - Abstract Algebra I Credits: 3 with a grade of B or better

Take Two Hours of

- MATH 5800 - Seminar in Mathematics Credits: 1-3 - 02, and Colloquia

In Addition

In addition, the student must:

- Pass the foundation exam, the qualifying exam in the student's research area, and the preliminary exam.
- Write a dissertation containing the student's original mathematical results and present an oral defense of the research.
- Take one hour of the seminar 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970 - Professional Development in Teaching.

Statistics Graduate Minor

A graduate minor in statistics can be a great way to signal your interest and skill in data analysis as it relates to your field of study.

Requirements

Twelve hours of STAT courses at the 5XXX-level:

- STAT 5005 - Data Wrangling Credits:
- STAT 5015 - Regression Analysis Credits: 3
- STAT 5025 - Design and Analysis of Experiments I Credits: 3
- STAT 5045 - Categorical Data Analysis Credits: 3
- STAT 5115 - Time Series Analysis and Forecasting Credits: 3
- STAT 5155 - Fundamentals of Sampling Credits: 3
- STAT 5210 - Advanced Regression Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- STAT 5230 - Statistic Methods III Credits: 4
- STAT 5240 - Data Mining Credits: 3
- STAT 5255 - Mathematical Theory of Probability Credits: 3
- STAT 5265 - Introduction to the Theory of Statistics Credits: 3
- STAT 5270 - Applied Bayesian Statistics Credits: 3
- STAT 5280 - Models for Hierarchical Data Credits: 3
- STAT 5300 - Applied Multivariate Analysis Credits: 3
- STAT 5350 - Survey Construction and Analysis Credits: 3
- STAT 5360 - Spatial Statistics Credits: 3
- STAT 5370 - Survival Analysis Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- STAT 5490 - Statistical Consulting Credits: 1
- STAT 5510 - Distribution Theory Credits: 4
- STAT 5520 - Inference I Credits: 4
- STAT 5530 - Inference II Credits: 3
- STAT 5540 - Large Sample Theory Credits: 3
- STAT 5615 - Time Series Analysis II Credits: 3
- STAT 5620 - Theory of Linear Models Credits: 3
- STAT 5630 - Multivariate Analysis Credits: 3
- STAT 5650 - Theory of Sampling Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3
- STAT 5670 - Mixed Models Credits: 3
- STAT 5680 - Advanced Bayesian Statistics Credits: 3

Statistics, M.S.

Profile

The Master's Program in Applied Statistics will give the student an extensive and broad background in statistical methods, data analysis, and written and oral presentation skills. This degree is a terminal experience in graduate statistical education and should not be viewed as preparatory for entrance into a Ph.D. program in statistics. Graduates will have the necessary background to work as data management specialists, statistical analysts, and as project managers within a wide range of research organizations.

Plan B (Option 1)

Coursework

In addition to the general requirements of the university all candidates for the MS (Plan B - Option 1) degree must successfully take and complete:

Required: 15 Credit Hours

- STAT 5210 - Advanced Regression Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- STAT 5470 - Data Analysis Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3

Electives

a minimum of 15 credit hours in other acceptable graduate courses. Acceptable courses include statistics courses numbered 5000 or higher, **EXCEPTING**:

- STAT 5050 - Statistical Methods for the Biological Science Credits: 3
- STAT 5070 - Statistical Methods for the Social Sciences Credits: 3
- STAT 5080 - Statistical Methods for the Agricultural and Natural Resource Sciences Credits: 3
- STAT 5185 - Analysis of Data Credits: 3

Total Credits: 30 Hours

Graduation Requirements: (1) successful completion of coursework and (2) a data analysis project (Plan B paper).

QuickStart Program

Mathematics Quick Start BS/MS

A five-year combined Master's and Bachelor's degree in mathematics, in which six credits of graduate coursework is counted toward both degrees. UW students must apply to be considered for this degree.

Mathematics Quick Start Information

Overview

The combined BS/MS program in Mathematics is designed to afford highly qualified students in their junior or senior year the opportunity to work towards both the BS and MS degrees in Mathematics. The program allows for advanced students to jump-start the graduate portion of their education by applying credits for graduate courses to both their BS and MS requirements. The MS degree earned under the combined BS/MS program is not a new or separate category of degree. However, through careful planning and coordination, this program can result in a reduction of the time required to complete both the Mathematics, B.S. and Mathematics, M.S. degrees.

Qualification/Admission

Application for admission may be submitted to the department at any time after the student has completed 75 undergraduate credits. Graduate credits may be applied toward the MS under this program upon the completion of 90 undergraduate credits. Additional minimum requirements for admission are:

1. Minimum GPA of 3.25

2. Minimum GPA in undergraduate math courses of 3.5

3. Completion of two transition courses or their equivalents

4. Three letters of recommendation from UW faculty (at least 2 from UW-Math)

Credits

The BS/MS-Math program allows for students under the guidance of their academic advisor to take graduate courses as part of their BS degree. During their senior year, up to six graduate credits (5000+ level) can be counted simultaneously

towards both the BS and MS degrees in Mathematics. In principle, this "double dipping" allows students to earn a MS after completing only 144 credits (120 to earn the BS, 6 of which are applied toward the 30 credits required to earn the MS) instead of 150 credits. In addition, students may reserve a further six credits of 5000 level credits for their MS degrees prior to earning their BS; however, these credits will not be counted toward the BS degree.

Satisfactory progress

The department's Foundation Exam must be passed by the beginning of their second semester of their 4th year. Students in the BS/MS program must have a faculty advisor, with whom they consult to complete a program of study. The Program of Study (POS) must be submitted to the Mathematics Graduate Committee for approval by the end of the midterm of the first semester in which the student has been admitted into the program. The POS must include all courses to be taken during their senior year to the end of the students MS program. Any of the tracks (plan A or B) available to our Masters students will be available to students in this program. The advisor will aid the student in determining which track is the best for completion of the Masters.

Regulations

Students in this program will be governed by the regulations applicable to any undergraduate student in Mathematics until the student has completed 120 credit hours applicable to the BS degree in Mathematics. Once those 120 credit hours have been completed, the student will be enrolled as a graduate student and be governed by graduate student regulations in the Mathematics graduate program. To the extent possible, once the student transitions to being a graduate student, the student should complete the MS degree in 12 months.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Arts and Sciences requirements:

Students must take two "core" courses in addition to UW's University Studies Program requirements: Diversity in the United States (ASD) and Global Awareness (ASG). • No

more than 60 hours in the major subject may be used toward the 120 credit hours required for graduation. • At least 30 hours in the major subject must be completed with a grade of C or better (the major may require more).

Statistics Quick Start BS/MS

An advanced degree in Statistics is powerful in its own right; statistical methods are part of the core of data science, so stands as a useful foundation for that as well. The Program in Statistics at the University of Wyoming now offers a QuickStart ("4+1") MS program, within which qualified students can obtain a Statistics, B.S. and a Statistics, M.S. degree in five years.

The program is intended for inspired, high-achieving students; the pace will be intense, as you will need to be taking courses at the graduate level in your undergraduate senior year.

The MS degree requires 30 credits; in order to make the 4+1 program work enrolled students can

- Have two three-credit 4XXX/5XXX classes count towards both the BS and MS degrees. Enrollment must be for the 5XXX section of the course. Tuition is charged at the undergraduate rate.
- Reserve two three-credit 4XXX/5XXX classes for graduate credit. Tuition is charged at the undergraduate rate, but these two classes *will only count towards the MS.*

With these four courses counting towards the MS, there remains 18 credits, which can be done in two semesters of three (three-credit) classes each.

Steps:

- Apply (usually in the Spring of your Junior year) online to the QuickStart- Statistics BS/MS -College of Arts & Science program[1]. You will need (unofficial is fine) college transcripts, a statement of purpose, and three letters of recommendation[2].
- Once you are enrolled in the program, the Admissions Office will work with you to put into play the double-dip and reserved courses mentioned above.

Acceptance into the MS is conditional until your undergraduate degree is awarded and results are in from your taking the GRE, which we recommend you take in your last undergraduate year.

[1] Instructions from the registrar: Apply at: https://www.uwyo.edu/admissions/apply-online.html

The log-in is different from WyoWeb. If you remember the log-in email/password form when you originally applied to UW, you can use the Returning Users option. Otherwise, use the First Time users option. When you get to the page where you select your program of study, select **QuickStart-Statistics BS/MS -College of Arts & Science**. All the Quickstart program are under Q to (hopefully) reduce confusion for non-quickstart applicants. Any questions during the application process can be directed to admissions@uwyo.edu or 766-5160.

[2] These documents are standard for applying to our graduate program; we anticipate we will have a mix of QuickStart students and regular (i.e. 2-year) MS students who are applying from elsewhere.

Department of Mechanical Engineering

2052 Engineering Building, (307) 766-2122
Web site: www.uwyo.edu/mechanical
E-mail: me.info@uwyo.edu
Department Head: Ray S. Fertig III

Professors:

RAY S. FERTIG III, B.S. University of Wyoming 2001; M.S. 2003; Ph.D. Cornell University 2010; Associate Professor of Mechanical Engineering 20232017, 2011.

JONATHAN W. NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineering 2012, 1997.

Associate Professors:

ERICA L. BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

MICHAEL STOELLINGER, M.S. Technical University Munich 2005; Ph.D. University of Wyoming 2010; Associate Professor of Mechanical Engineering 2018, 2012.

Assistant Professors:

XIANG ZHANG, B.S. Northeastern University (China) 2009; M.S. Beihang University (China) 2012; Ph.D. Vanderbilt University 2017; Assistant Professor of Mechanical Engineering 2019.

Instructional Professors:

LEVI J. KIRBY, B.S. Western Illinois University 2017; M.S. 2018; Ph.D. University of Iowa 2023; Assistant Instructional Professor of Mechanical Engineering 2023.

RAMSANKAR VEERAKUMAR, B.S University of Kerala (India) 2005; M.S. Birla Institute of Technology and Science (BITS Pilani) 2014. Ph.D. Iowa State University 2021. Assistant Instructional Professor of Mechanical Engineering 2021.

Lecturers:

KARI STRUBE, BS in Electrical Engineering (bioengineering option), University of Wyoming 2007. MS in Electrical Engineering, University of Wyoming, 2009. Assistant Lecturer, 2021

Professors Emeriti:

Dennis N. Coon, Paul A. Dellenback, Bruce R. Dewey, Andrew Hansen, Dimitri J. Mavriplis, Ovid A. Plumb, David E. Walrath

Mechanical Engineering B.S.

Mechanical Engineering is the broadest area of study in engineering. In contrast to other engineering disciplines, mechanical engineers are employed in significant percentages in almost all industrial and governmental organizations that employ engineers.

The spectrum of activities in which mechanical engineers are engaged continues to expand. The curriculum has in turn become flexible to allow for the education of mechanical engineering students in many diverse and allied areas, or for graduate school preparation.

The educational objectives of the of Mechanical Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.

- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The undergraduate program includes a foundation in mathematics, science, and engineering sciences. The three key elements of the mechanical engineering undergraduate program include core engineering principles, laboratory experience, and development of communication skills.

The mechanical engineering curriculum affords the student the flexibility to pursue specific professional goals within the discipline. Such an opportunity needs to be carefully considered by each student, so that elective courses are chosen with these goals in mind. During the junior and senior years, the student selects 15 credit hours of technical electives.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better must be earned in all engineering science (ES) and required mathematics courses.

Mechanical Engineering, B.S.

Energy Systems Engineering B.S.

Energy Systems Engineering (ESE) is an ABET-accredited undergraduate degree offering in the Department of Mechanical Engineering. The ESE program was designed to train engineers to address one of this country's foremost challenges: to achieve energy independence and meet the growing demand for energy, while at the same time addressing critical environmental concerns. The program is intended to help meet these challenges by preparing students to be:

- technology leaders in energy conversion and environmental protection systems
- capable managers in the energy industry
- versatile overseers of energy development by the governmental sector

- technically-trained and environmentally-sensitive liaisons between the energy industry and the public.

ESE students will be trained in alternative and environmentally-friendly energy conversion systems, as well as more traditional technologies that will continue to play an important role for the foreseeable future.

Although the discipline of mechanical engineering has historically been responsible for the design of energy conversion cycles and equipment, issues outside the conventional realms of engineering are increasingly important to address as new and improved energy conversion systems are implemented. The engineer trained in Energy Systems will be better equipped than traditional mechanical engineers to deal with the environmental, legal, political, economic, and permitting aspects of new energy projects.

The educational objectives of the of Energy Systems Engineering B.S. prgram are to prepare students to:

- Successfully practice the profession of engineering.
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Energy Systems Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

The ESE degree has many coursework requirements in common with the Mechanical Engineering degree, particularly in the thermal, fluids, and energy conversion sciences. However, the ESE program emphasizes energy conversion aspects of Mechanical Engineering and requires coursework from UW's School of Environment and Natural Resources (ENR), course work in environmental law, and electives picked from a list of classes that focus attention on energy and the environment. The ENR courses expose students to issues related to permitting such as preparation of environmental impact studies, and related regulations such as the Endangered Species Act. In addition, technical electives allow students to choose more detailed study in personal areas of interest including, for example, courses in environmental engineering, wind engineering, solar engineering, and petroleum engineering.

Mechanical and Energy Systems Engineering degree candidates must meet the academic requirements of the college and in addition must have an average GPA of 2.000 (C) in Mechanical and/or Energy Systems engineering courses completed at this university. A grade of C or better

must be earned in all engineering science (ES) and required mathematics courses.

Energy Systems Engineering, B.S.

Concurrent ME/ESE Degrees

In the event that a student desires concurrent majors in ME and ESE, University policy requires that ALL requirements for each program are met. The student must select which will be the primary major.

Graduate Study

The Department of Mechanical Engineering offers graduate study leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering. Faculty in Mechanical Engineering conduct research in the areas of aerodynamics, biomaterials, composite materials, computational material science, computational fluid dynamics, combustion, continuum mechanics, heat transfer, materials reliability, mechanical behavior of materials, nanomechanics of surfaces and interfaces, and wind energy.

Department Specific Graduate Admission Requirements

Applicants should possess a Bachelor of Science (B.S.) degree or equivalent in Mechanical Engineering with a minimum GPA of 3.000 on a 4.000 grade scale or equivalent. Students that do not hold B.S.M.E. degrees may qualify as M.S. candidates by completing, without credit, certain prerequisite courses as specified by the Department. These prerequisites would depend upon the candidate's background and upon the area in which he/ she plans to specialize.

A minimum composite score of 294 (MS) or 307 (PhD) on the Verbal and Quantitative sections of the GRE is required for admission to the Mechanical Engineering Department. For international students, a minimum TOEFL score of 90 on the Internet-based test (iBT) (or a minimum IELTS score >= 6.5 or a DuoLingo >= 110) is required. If an international applicant wishes to be considered for Graduate Teaching Assistantship funding, the following minimum English Proficiency must be met: OPI >= Advanced Mid, TOEFL Speaking >= 23, IELTS Speaking >= 6.5, DuoLingo Conversation & Production (average) >= 110. If an international applicant wishes to be considered for Graduate

Teaching Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/study-iep-esl/grad-ta-support/index.html) if you have questions regarding the English proficiency requirements. Admittance to the graduate program is competitive, and the average applicant that is accepted with assistantship support will likely have well above the minimum qualifications.

In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): resume, copy of academic transcript, copy of GRE scores, copies of TOEFL (or IELTS or DuoLingo) scores for international non-native English speaking applicants, three letters of reference, and a Statement of Purpose indicating the applicant's technical area of interest, abilities, and objectives in completing a graduate degree in mechanical engineering. If you are applying for the BS/MS program, please choose "QuickStart - Mechanical Engineering BS/MS" as the program (no GRE score and Statement of Purpose are needed for the BS/MS application). Applicants to the joint MBA/MS-ME program should chose the MS degree program for the application. To be considered for Assistantships, applications must be submitted before March 15 for the Fall semester or October 15 for the Spring semester.

For Quickstart B.S./M.S. admissions requirement, see degree link below.

Major

Energy Systems Engineering, B.S.

Energy Systems Engineers design, develop, and test energy systems and devices with emphasis on renewables, conversion, and more, and in the context of environmental and legal considerations. The UW BS in Energy Systems Engineering is ABET accredited.

Accreditation

The Energy Systems Engineering program is accredited by the Engineering Accreditation Commission(s) of ABET, https://www.abet.org, under the General Criteria.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy Systems Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

- MATH 2200 - Calculus I Credits: 4

- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Policy for Transfer Credit Towards Energy Systems Engineering (ESE) Core Coursework

In general, transfer of coursework toward an Energy Systems Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Energy Systems Engineering electives without a direct University of Wyoming equivalent). However, three courses are considered to be the core of the Energy Systems Engineering program, and therefore credit cannot be transferred from another institution. These courses are ESE 3020, ESE 3040, and ESE 3360. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ESE courses requires explicit written approval from the Department.

Energy Systems Engineering Curriculum

Atmospheric Science

- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3

Chemistry

- CHEM 1020 - General Chemistry I Credits: 4

Engineering Science

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3

- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3

Environment and Natural Resources

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

Math

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3

Energy System Engineering

- ESE 3005 - Engineering Experimentation and Solid Modeling Credits: 3
- ESE 3020 - System Dynamics Credits: 3
- ESE 3040 - Thermodynamics II Credits: 3
- ESE 3160 - Thermal/Fluid Science Lab Credits: 3
- ESE 3360 - Fundamentals of Transport Phenomena Credits: 3
- ESE 4060 - Energy Systems Design I Credits: 3
- ESE 4070 - Energy Systems Design II Credits: 3

Life Sciences

- LIFE 1010 - General Biology Credits: 4

Physics

- PHYS 1220 - Engineering Physics II Credits: 4

Electives

- One Business Elective (min 3 CH, select from department-approved list)
(See here for Math, Science and Business Elective options: me_math_science_business_electives_2022_02_04.pdf (uwyo.edu)

ESE Electives

Two ESE Electives (min 6 CH total) choose 2 from:

- ECON 1300 - Oil: Business, Culture, and Power Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- PETE 4000 - Environment, Technology and Society Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 (Applied GIS or Econ Nat Resources)

Technical Electives

Five Technical Electives (min 15 CH). Choose 5 from:

- ARE 4430 - HVAC Systems Analysis and Design Credits: 3
- ARE 4740 - Mechanical Systems Design Project Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ES 2280 - Physical Computing Credits: 3
- ESE 4455 - Combustion Engineering Credits: 3
- ESE 4461 - Computational Fluid Dynamics I Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3
- ESE 3060 - Numerical Methods for Engineers Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ME 3450 - Properties of Materials Credits: 3

- ME 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3

Program Educational Objectives

- Successfully practice the profession of engineering

- Demonstrate career growth (e.g., increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees)

- Apply energy systems engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts

- Successfully serve in a range of leadership and collaborative roles in the profession and in the community

- Exhibit high professional standards and commitment to ethical action

Energy Systems Student Outcomes

The Department's Student Outcomes are:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors

- An ability to communicate effectively with a range of audiences

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

1. Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2205 , MATH 2210, and the seven ES courses).

2. Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 126 total credit hours is required. A minimum of 48 hours of upper division coursework are required, so ESE, business, and technical electives should be chosen appropriately.

3. All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Mechanical Engineering, B.S.

Mechanical Engineers design, develop, build, and test mechanical and thermal systems and devices in a wide range of fields including energy, manufacturing, materials, machines, and more.

Accreditation

The Mechanical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Mechanical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
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- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Mechanical Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

- Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
- ES 2800 is NOT a part of the MESC
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 48 hours of upper division coursework are required, so ME, business, and technical electives should be chosen appropriately.
- A minimum of 126 total credit hours is required.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Policy for Transfer Credit Towards Mechanical Engineering (ME) Core Coursework

In general, transfer of coursework towards a Mechanical Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Mechanical Engineering electives without a direct University of Wyoming equivalent). However, six courses are considered to be the core of the Mechanical Engineering program, and therefore credit cannot be transferred from another institution. These courses are ME 3010, ME 3020, ME 3040, ME 3170, ME 3360, and ME 3450. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ME courses requires explicit written approval from the Department.

Mechanical Engineering Curriculum

Chemistry

- CHEM 1020 - General Chemistry I Credits: 4

Engineering Science

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3

- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- ES 2280 - Physical Computing Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3

Math

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3

Mechanical Engineering

- ME 3005 - Engineering Experimentation and Solid Modeling Credits: 3
- ME 3010 - Intermediate Mechanics of Materials Credits: 3
- ME 3020 - System Dynamics Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3160 - Thermal/Fluid Science Lab Credits: 3
- ME 3170 - Machine Design Credits: 3
- ME 3360 - Fundamentals of Transport Phenomena Credits: 3
- ME 3450 - Properties of Materials Credits: 3
- ME 4060 - Systems Design I Credits: 3
- ME 4070 - Systems Design II Credits: 3
- ME 4150 - Mechanical Behavior of Materials Credits: 3

Physics

- PHYS 1220 - Engineering Physics II Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4 (min 3 CH)

OR

- PHYS 1210 - Engineering Physics I Credits: 4

Electives

- Four ME Electives (min 12 CH total, any upper division ME course or EE 4620, excluding ME 3975)
- One Math/Science Electives (min 3 CH total, select from department-approved list)
- One Business Elective (min 3 CH, select from department-approved list)

(See here for Math, Science and Business Elective options: me_math_science_business_electives_2022_02_04.pdf (uwyo.edu))

- ME 3060 - Numerical Methods for Engineers Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- EE 4620 - Automatic Control Systems Credits: 3
- ME 4010 - Mechanical Vibrations Credits: 3
- ME 4020 - Design of Mechanical/Electronic Systems Credits: 3
- ME 4040 - Introduction to Finite Elements Credits: 3
- ME 4100 - Manufacturing Processes Credits: 3
- ME 4200 - Thermo/Kinetics of Materials Credits: 3
- ME 4210 - Introduction to Composite Materials Credits: 3
- ME 4215 - Composite Materials Design and Manufacturing Credits: 3
- ME 4240 - Gas Dynamics I Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- ME 4350 - Airplane Aerodynamics and Flight Credits: 3
- ME 4430 - HVAC Systems Analysis and Design Credits: 3
- ME 4450 - Principles of Materials Selection Credits: 3
- ME 4455 - Combustion Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4461 - Computational Fluid Dynamics I Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

Mechanical Engineering Program Educational Objectives

- Successfully practice the profession of engineering
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.

- Exhibit high professional standards and commitment to ethical action.

Mechanical Engineering Program Student Outcomes

The Department's Student Outcomes are:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors

- An ability to communicate effectively with a range of audiences

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

- Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
- ES 2800 is NOT a part of the MESC
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 48 hours of upper division coursework are required, so ME, business, and technical electives should be chosen appropriately.

- A minimum of 126 total credit hours is required.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Graduate

Mechanical Engineering, M.S.

The UW Mechanical Engineering MS program offers two options: thesis (Plan A) or non-thesis (Plan B). Both tracks offer opportunities to take graduate coursework in topics of thermal fluids, materials, experimentation, computational tools, and more.

Program Specific Degree Requirements

Plan A (Thesis)

A thesis project is chosen in consultation with an ME faculty member and constitutes 4 credit hours of ME 5960 in the 30-hour Plan A program. ME 5478 (Seminar) is to be taken during the final semester when the thesis is presented and defended and constitutes 2 credit hours of the 30-hour Plan A program. Classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken
- Thesis research (ME 5960 or ME 5980): 4 credit hours
- Seminar (ME 5478): 2 credit hours
- ME 5475 as Independent Study: maximum of 3 credit hours
- Total: minimum of 30 credit hours

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. Up to two courses may be from the fields of business, ENR, or public policy.

Plan B (Non-Thesis)

The Plan B M.S. degree can be completed by earning a minimum of 30 credits beyond the baccalaureate degree. Classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 hours

- A maximum of 9 credits at the 4000 level outside of ME may be taken
- ME 5475 as Independent Study: maximum of 3 credit hours
- Total: minimum of 30 credit hours

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. Research credits earned through ME 5960 as part of an unfinished M.S. Plan A program may not be counted.

MS-ME/MBA Dual Program

The UW Mechanical Engineering MS/MBA program offers the opportunity to pursue MS and MBA degrees simultaneously and reduce course requirements by applying course credit towards both degrees. There are thesis and non-thesis options for the MS degree.

MS-ME/MBA Program Requirements

The MS-ME component is 30 credits beyond the BS level and is typically a non-thesis option. 9 credits from the MBA core curriculum will count towards the 30 credit MS-ME requirements. Of the remaining 21 credits, classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 credits
- ME 5475 as Independent Study: maximum of 3 credit hours
- A maximum of 6 credits at the 4000 level outside of ME may be taken

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines.

MS-ME/MBA Thesis Option

For a thesis option, students will only count 3 credits from the MBA core-curriculum and are required to complete 4 credits of ME 5960 and 2 credits for ME 5478 , similar to the Plan A option.

Mechanical Engineering Graduate Level Courses

- ME 5040 - Introduction to Finite Element Analysis Credits: 3
- ME 5045 - Advanced Finite Element Analysis Credits: 3

- ME 5200 - Thermo/Kinetics of Materials Credits: 3
- ME 5432 - Advanced Materials Science Credits: 3
- ME 5434 - Computational Materials Science Credits: 3
- ME 5435 - Failure of Engineering Materials Credits: 3
- ME 5438 - Plasticity and Viscoelasticity Credits: 3
- ME 5440 - Fluid Mechanics Credits: 3
- ME 5442 - Advanced Fluid Mechanics Credits: 3
- ME 5446 - Turbulence Credits: 3
- ME 5448 - Experimental Fluid Dynamics. Credits: 3
- ME 5452 - Convection Heat Transfer Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- ME 5472 - Continuum Mechanics Credits: 3
- ME 5478 - Seminar in Mechanical Engineer Credits: 2
- ME 5960 - Thesis Research Credits: 1-12
- ME 5961 - Graduate Projects Credits: 1-4
- ME 5980 - Dissertation Research Credits: 1-12

Mechanical Engineering, Ph.D.

The UW Mechanical Engineering PhD program includes coursework and a substantial research component. Research is performed with an advisor, and a dissertation is produced. Program requirements include Qualifying, Preliminary, and Final Examinations.

Program Requirements

For students of outstanding academic ability and with demonstrated capacity for undertaking independent research on advanced engineering problems, the Ph.D. program in mechanical engineering is offered. The Ph.D. requires a minimum of 72 graduate hours, at least 42 of which must be earned in formal coursework. A minimum of 24 in-resident coursework hours is required (ME 5980 - Dissertation Research counts towards in-resident coursework). In addition to coursework requirements, graduate students pursuing a Ph.D. in Mechanical Engineering must complete three examinations: Qualifying, Preliminary, and Final.

<u>The 42 credits in formal coursework must meet the following constraints:</u>

- ME courses (5000-level): minimum of 15 hours
- ME 5475 as Independent Study: maximum of 3 credit hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. All graduate students in Mechanical Engineering are expected to follow the graduate education policies of the College of Engineering and Applied Sciences.

Qualifying Exam

In consultation with their advisor, students are allowed to take the Qualifying Exam after declaring pursuit of a Ph.D. degree. Graduate students do not require a M.S. to take the Qualifying Exam. The format is a knowledge-based examination consisting of three subject areas, each with both a written and an oral component. The candidate will be evaluated for each subject area, based on the cumulative performance in both (written and oral) components. Should the student fail a single subject area, at the discretion of the committee, they may repeat the failed portion at the next available opportunity. A third attempt is not permitted. The successful completion of the Qualifying Exam is required before the Preliminary Exam.

Preliminary & Final Exam

The purpose of the Preliminary Exam is to evaluate the aptitude of the Ph.D. candidate to perform research based on preliminary results, and to assess the student's plan for completing the research necessary for the Final Exam. The Preliminary Exam follows university regulations and, at a minimum, consists of a seminar attended by the student's committee members.

The purpose of the Final Exam is to ensure the Ph.D. candidate has sufficient accomplishments to be awarded a Ph.D. The Final Exam consists of an oral defense of the dissertation in accordance with university policy.

Mechanical Engineering Graduate Level Courses

- ME 5045 - Advanced Finite Element Analysis Credits: 3
- ME 5040 - Introduction to Finite Element Analysis Credits: 3
- ME 5200 - Thermo/Kinetics of Materials Credits: 3
- ME 5432 - Advanced Materials Science Credits: 3
- ME 5434 - Computational Materials Science Credits: 3
- ME 5435 - Failure of Engineering Materials Credits: 3
- ME 5438 - Plasticity and Viscoelasticity Credits: 3

- ME 5440 - Fluid Mechanics Credits: 3
- ME 5442 - Advanced Fluid Mechanics Credits: 3
- ME 5446 - Turbulence Credits: 3
- ME 5448 - Experimental Fluid Dynamics. Credits: 3
- ME 5452 - Convection Heat Transfer Credits: 3
- ME 5455 - Combustion Engineering Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- ME 5472 - Continuum Mechanics Credits: 3
- ME 5474 - Energy Methods Credits: 3
- ME 5478 - Seminar in Mechanical Engineer Credits: 2
- ME 5980 - Dissertation Research Credits: 1-12

QuickStart Program

Mechanical Engineering Quick Start, B.S./M.S.

The UW Mechanical Engineering BS/MS QuickStart program offers Mechanical Engineering and Energy Systems Engineering undergraduate students the opportunity to start on MS graduate coursework early and gain credit towards BS and MS degree requirements.

Requirements for Admission

Through judicious choice of undergraduate electives, this program allows double-counting up to two 5000-level courses from the B.S. program toward M.S. degree requirements, thus reducing the time requirement for completing an M.S. degree. Students can apply for admission to the B.S./M.S. program by achieving junior status and meeting the following requirements for admission:

- completion of the four core ME courses (listed below)
- a minimum overall GPA of 3.250
- a minimum GPA of 3.250 in ME courses
- a minimum of two letters of recommendation from ME faculty at UW.

Core Mechanical Engineering Courses

Completion of the following four ME courses is required for admission.

- ME 3010 - Intermediate Mechanics of Materials Credits: 3
- ME 3020 - System Dynamics Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3360 - Fundamentals of Transport Phenomena Credits: 3

Additional Information

Students must maintain a GPA of at least 3.250 in their undergraduate and at least 3.000 in their graduate coursework to remain in good standing in the program. Not meeting the GPA requirement places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be dismissed from the Quick Start program. Transfer students must have taken courses equivalent to the ME core courses. Transfer students must have also completed at least 15 credit hours of courses at UW to be eligible for admission.

Until a student in this program has completed all requirements for their B.S. degree they will be governed by the regulations applicable to undergraduate students in the Department. After completion of the B.S degree, they will be governed by the regulations applicable to any graduate student in the ME department. Note that, the M.S. portion of the Quick Start program can be either a Plan-A (thesis option) or a Plan-B (non-thesis option). Please refer to the M.S.-ME degree catalog entry for details.

As many as 6 credit hours of ME department courses at the 5000 level may be counted towards both the undergraduate degree requirements and the requirements for the M.S. degree. In addition, up to six hours of reserved graduate credit can be applied towards the M.S. degree.

Department of Energy and Petroleum Engineering

4015 Engineering Building, (307) 766-4258
Web site: www.uwyo.edu/petroleum
Department Head: Dennis Coon, Ph.D., Interim

Professors:

HERTANTO ADIDHARMA, B.Sc. Institute of Technology, Surabaya 1987; Ph.D. Louisiana State University 1999; Professor of Chemical Engineering 2019.

MAOHONG FAN, B.S. Wuhan University of Science and Engineering 1984; M.S. Beijing University of Science and Tech. 1992; Ph.D. Chinese Academy of Sciences 1997; Ph.D. Iowa State University 2000; Ph.D. Osaka University 2003; Professor of Chemical Engineering 2014.

KHALED A.M. GASEM, B.Sc. University of California at Berkley 1976; M.Sc. Colorado School of Mines 1979; Ph.D. Oklahoma State University 1986; Professor of Chemical Engineering 2014.

LAMIA GOUAL, B.Sc. Ecole Nationale Polytechnique 1993; M.Sc. Imperial College, London 1998; Ph.D. 2003; Professor of Petroleum Engineering 2021.

MOHAMMAD PIRI, B.Sc. Azad University, Arak 1995; M.Sc. Azad University, Tehran 1998; M.Sc. Imperial College, London 2000; Ph.D. 2004; Professor of Petroleum Engineering 2018.

Associate Professors:

PEJMAN TAHMASEBI, B.S. Sahand University of Technology 2007; M.Sc. Amirkabir University 2009; Ph.D. University of Southern California/Amirkabir University 2012; Associate Professor of Petroleum Engineering 2021.

MORTEZA DEJAM, B.Sc. Petroleum University of Technology 2007; M.Sc. Sharif University of Technology 2009; Ph.D. University of Calgary 2016; Associate Professor of Petroleum Engineering 2022.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of Wyoming 2013; Associate Professor of Petroleum Engineering 2022.

Academic Professionals:

TAWFIK ELSHEHABI, B.Sc. Suez Canal University 2003; M.Sc. 2007; Ph.D. West Virginia University 2017; Senior Lecturer of Petroleum Engineering 2019.

Instructional Professors:

REZA TAHERI, B.Sc. Amirkabir University 1997; M.S. University of Twente, Netherlands 2001; Ph.D. Curtin University 2008; Assistant Instructional Professor of Petroleum Engineering 2020.

Professors of Practice:

DOUGLAS CUTHBERTSON, B.S. University of Wyoming 1985; Professor of Practice in Petroleum Engineering 2016.

BRIAN TOELLE, B.S. Texas A&M University 1978; M.S. Austin State University 1981; Ph.D. West Virginia University 2013; Professor of Practice in Petroleum Engineering 2015.

Professors Emeriti:

Jack Evers
H. Gordon Harris
Norman R. Morrow
Mrityunjai P. Sharma
Brian Towler

Petroleum Engineering trains students for Wyoming's largest industries, the production of crude oil and gas. With the recognition of the state's and nation's vast reserves of natural gas, the curriculum emphasizes the production and processing of this important resource. Because of American predominance in petroleum technology, career opportunities are available throughout most of the world.

The curriculum in petroleum engineering is based upon sound preparation in fundamental sciences, mathematics, physics, chemistry, and geology. The essentials of engineering are added to this foundation: computer programming, statics, dynamics, materials science, hydraulics, and thermodynamics. To aid in developing individuals' social potential and broaden their educational background, an integrated program in humanities and social sciences is included in the curriculum. Petroleum engineering courses, which are primarily concerned with application of previously acquired knowledge to problems of the oil and gas industry, are concentrated in the junior and senior years.

Petroleum Engineering degree candidates must meet the academic requirements of the college and must have a GPA of 2.000 or greater in Petroleum Engineering (PETE) courses attempted at UW that are applied toward graduation for the B.S. degree from the department. For approved electives, students must have prior approval of their advisor and department head. Elective courses must be chosen from a list provided by the department. Students must complete a minimum of 48 upper division (junior/senior) or graduate-level credit hours for this program.

Program Vision

As a highly respected community of scholars and practitioners, we are committed to providing outstanding petroleum engineering education, conducting internationally recognized research in key focus areas, and improving the well-being of the people of Wyoming and the world through education, technical innovation and economic development.

Program Mission

Provide outstanding, contemporary, ABET-accredited education in petroleum engineering to highly qualified undergraduates who will serve as an economic resource for Wyoming and the world.

Provide excellent, research-based graduate educations at the master's and doctoral levels in petroleum engineering to top students who will drive technical and economic innovation for Wyoming and the world.

Conduct internationally recognized research in key focus areas that leads to new technologies while also enhancing economic development for Wyoming and the world.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum Engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.

- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.

- An ability to communicate effectively with a range of audiences.

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Undergraduate "Major Only" Courses

Upper division PETE core courses are restricted to petroleum engineering majors only.

Technical Electives Policy

The technical electives in the petroleum engineering curriculum can be used to complete a curriculum emphasis option or a minor. The number of credits of upper division courses must be satisfied, therefore, 13 elective credits must be 3000-level courses or higher.

Note: Technical Electives must be selected with your advisor's documented approval.

Transfer Credit Limit

To graduate with a degree in Petroleum Engineering from UW, students must successfully complete at least 20 credit hours of required PETE courses at UW.

- Once a student has transferred to UW's Department of Petroleum Engineering from another institution, they may transfer no more than 9 additional credits from other institutions.
- Non-transfer students may transfer up to 18 credits from other institutions.

Repeating a Course

Students who fail a PETE class three times can no longer enroll in that class.

Academic Suspension

Students who have been academically suspended from UW twice are no longer eligible to enroll in PETE courses.

Curriculum Emphases

The Department of Petroleum Engineering has established curriculum emphases that could shape your interest further or acquire useful transferable skills. A curriculum emphasis is not a minor or concentration and will not be stated on your diploma. If you choose to follow a curriculum emphasis option, you should discuss it with your academic advisor so they can assist you in planning your courses.

Petroleum Engineering offers the following curriculum emphasis options:

- Unconventional Reservoirs
- Chemical Engineering
- Mechanical Engineering
- Graduate School Preparation

BS/MS Quick Start Program

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during the first or second semester of their junior year or *before* starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

- Qualified students may receive provisional admission to the Petroleum Engineering graduate program by submitting a quick start application through the online graduate application system. This provisional admission will permit students to make their long-term educational plans earlier in their studies and before graduating the B.S. program, thus providing enhanced opportunities for course selection and involvement in research.

- Students in the program may apply up to 6 credit hours of graduate-level courses toward both the B.S. and M.S. degree programs. By successfully completing up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergraduate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Study

The Department of Petroleum Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in petroleum engineering. The M.S. degree is offered with Plan A and Plan B options.

In addition, the Department offers an M.B.A./M.S. in Petroleum Engineering Dual Degree Program, in conjunction with the College of Business M.B.A. Program. Students pursuing this option must apply to and be offered admission from both programs.

Admission Process and Requirements

Graduate admission is open to students with at least a B.S. degree in petroleum engineering or closely related field and who meet the minimum requirements as shown below. Please note that test scores must be dated within the previous two years to be considered valid.

- A GPA of 3.000, or equivalent;
- A GRE score;
- A TOEFL score of 600 (paper-based), 250 (computer-based), or 80 (Internet based) **or** an IELTS score of 6.5 in each category for international applicants. We are also accepting the DuoLingo exam with a minimum score of 110 required.

Applications must include the following documents uploaded with the online application:

- Complete official transcripts of all prior college-level coursework,
- Current resume or curriculum vitae,
- Recommendations from at least three academic or professional references,
- A statement of purpose, and
- Unofficial test score certificates for both GRE and English proficiency exams.

Applications will not be reviewed or accepted until all required documents have been submitted.

The deadlines to submit applications are February 1 each year (to be considered for Fall semester), and September 15 each year (to be considered for Spring semester).

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/graduate/prospective/index.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Graduate Courses of Study

Incoming graduate students, not preselected by a faculty member, must meet with Petroleum faculty members to obtain information regarding research areas and current availability. The student must formally request a Petroleum faculty member of their choosing to oversee their degree study program.

Masters Program

1. All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following courses:

Required Courses	**Hrs.**
PETE 5355	3
PETE 5890	2

At least three Core Courses from the following:

PETE 5010	3
PETE 5020	3
PETE 5060	3
PETE 5080	3
PETE 5310	3
PETE 5350	3

Plan A Thesis Additional Course Requirements:

4000-level or above approved electives	12
PETE 5960	4
Total Credits	**30**

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives	14
PETE 5970	2
Total Credits	**30**

2. All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following courses:

Required Courses	**Hrs.**
PETE 5055	3
PETE 5340	3
PETE 5355	3
PETE 5715	3
PETE 5890	2

At least four Core Courses from the following:

PETE 5010	3
PETE 5020	3
PETE 5060	3
PETE 5080	3
PETE 5310	3
PETE 5350	3

Plan A Thesis Additional Course Requirements:

4000-level or above approved electives	7
GEOL 5190	3
PETE 5960	4
Total Credits	**40**

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives	7
GEOL 5190	3
PETE 5970	4
Total Credits	**40**

Dual Degree Program - M.B.A./M.S. degree in Petroleum Engineering

3. All Dual Degree M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses	**Hrs.**
PETE 5355	3
PETE 5890	2

At least three Core Courses from the following:

PETE 5010	3
PETE 5020	3
PETE 5060	3
PETE 5080	3
PETE 5310	3
PETE 5350	3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4
Total Credits 30

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2
Total Credits 30

4. All Dual Degree students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses	**Hrs.**
PETE 5055	3
PETE 5340	3
PETE 5355	3
PETE 5715	3
PETE 5890	2

At least four Core Courses from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5310.....3
PETE 5350.....3

Plan A Thesis Additional Course Requirements:
4000-level or above approved electives.....3
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5960.....4
Total Credits 42

Plan B Non-Thesis Additional Course Requirements:
4000-level or above approved electives.....5
M.B.A. approved electives:
MBAM 5XXX, MBAM 5301, MBAM 5305.....9
PETE 5970.....2
Total Credits 42

Note: For a student with a B.S. in another discipline, upon acceptance into the M.S. program, the Graduate Program Committee will develop a plan of study with the consent of the advisor.

Doctoral Program

1. All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least four Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....18

Research
PETE 5980..... 30
Total Credits 72

2. All Petroleum Ph.D. students with an B.S. in Other Majors must take the following required courses:

Required Courses **Hrs.**
PETE 5090.....3
PETE 5355.....3
PETE 5890.....6

At least five Core Courses* from the following:
PETE 5010.....3
PETE 5020.....3
PETE 5060.....3
PETE 5080.....3
PETE 5255.....3
PETE 5310.....3
PETE 5350.....3

Electives**
4000-level or above approved electives.....15

Research
PETE 5980..... 30
Total Credits 72

**Transferable from MS degree if applicable.*

***Up to 14 credits of electives transferable from MS degree if applicable.*

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890, Petroleum Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by any source other than state funds will work with their supervisor or faculty mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and

- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their

own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Major

Petroleum Engineering, B.S.

Petroleum engineers combine fundamentals of science & math with computer programming, materials science, fluid mechanics and thermodynamics to develop and apply new technology to recover hydrocarbons from conventional and unconventional reservoirs.

Accreditation

The Petroleum Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Petroleum and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **122** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math and Science

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Engineering Science

- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Petroleum Engineering

- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- PETE 2060 - Computing and Data Mining Credits: 3
- PETE 2070 - Geology/Geophysics for Petroleum Engineers Credits:
- PETE 3015 - Phase Behavior of Reservoir Fluids Credits: 3
- PETE 3025 - Heat and Mass Transfer Credits: 3
- PETE 3110 - Reservoir Petrophysics Credits:
- PETE 3200 - Reservoir Engineering Credits: 3
- PETE 3255 - Basic Drilling Engineering Credits: 3
- PETE 3715 - Production Engineering Credits: 3
- PETE 3725 - Well Completion and Stimulation Credits: 3
- PETE 4220 - Geostatistics and Subsurface Characterization Credits: 3
- PETE 4225 - Well Test Analysis Credits: 3
- PETE 4255 - Advanced Drilling Engineering Credits: 3
- PETE 4320 - Well Log Interpretation Credits: 3
- PETE 4340 - Petroleum Economics and Law Credits: 3
- PETE 4736 - Petroleum Engineering Design Credits: 4
- PETE Elective Credits: 6
- Technical Elective Credits: 6 (See advisor for options).

Additional Requirements/Program Information

- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

- A grade of C or better is required for the following courses:

- USP Communication courses: COM1, COM2, COM3
- All Engineering Science (ES) courses
- MATH courses that are prerequisites to ES or PETE courses

Petroleum Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.

- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Petroleum Engineering Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.

- An ability to communicate effectively with a range of audiences.

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering

solutions in global, economic, environmental and societal contexts.

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduate

Energy and Petroleum Engineering, M.E.

The program, with an initial four specialization options in energy-related disciplines (Energy, Advanced Drilling, Data Analytics, Blockchain) is a direct response to the high demand of the Energy and Petroleum industry worldwide to employ graduates with these skills.

Curriculum Map and Program Structure

- Students enrolled in the MEng program will need to complete 30 credits (typically, 10 courses of 3 credits each) to graduate.
- Students with a bachelor's degree in petroleum engineering shall select a minimum of five (5) specialized courses from a list of core courses under each discipline and the remaining courses can be taken as technical electives in the department or from other programs across campus. Students with other engineering or related science backgrounds will be required to take five (5) graduate courses in Petroleum Engineering as electives in addition to the five (5) core courses in their specialized area.
- In some cases, and, if one without a prior degree in petroleum engineering, provides adequate evidence of past training or industry experience in the petroleum industry, the number of petroleum engineering electives may be reduced to allow for more courses in the specialized discipline.

Core Courses in Energy Engineering

This list is the general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5050 - Life Cycle Analysis Credits: 3
- PETE 5860 - Energy, Environment, and Materials Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- EPE 5010 - Subsurface Energy Storage Credits: 3 3
- EPE 5020 - Petroleum and Geothermal Engineering Credits: 3 3
- EPE 5030 - Exergy Credits: 3 3
- EPE 5040 - Energy Economics Credits: 3
- EPE 5050 - Life Cycle Analysis Credits: 3 3
- EPE 5860 - Energy, Environment, and Materials Credits: 3 3

Core Courses in Advanced Drilling Engineering

This is the general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5255 - Advanced Drilling Engineering Credits: 3
- PETE 5215 - Electronics I Laboratory Credits: 3
- EPE 5210 - Advanced Well Control Credits: 3 3
- EPE 5220 - Drilling Problems and Solutions Credits: 3 3
- EPE 5230 - Managed Pressure Drilling Credits: 3 3
- EPE 5255 - Advanced Drilling Engineering Credits: 3

Core Courses in Data Analytics

This is the list and general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5150 - Topics in Petroleum Engineering Credits: 1-3
- EPE 5110 - Energy Data Analysis using Python Credits: 3 3
- EPE 5120 - Visual Analytics for the Energy Industry Credits: 3 3
- EPE 5130 - Data Analytics Applications in the Energy Industry Credits: 3
- EPE 5140 - Temporal Analytics for the Energy Industry Credits: 3
- EPE 5150 - Project Management in Energy Analytics Credits: 3 3

- EPE 5160 - Graph Modeling for Energy Industry Credits: 3 3
- EPE 5170 - Text Analytics for Energy Solution Credits: 3

Core Courses in Blockchain Technology

This is the list and general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- BKCH 4021 - Business Applications of Blockchain Credits: 3
- BKCH 4121 - Case Studies in Block Chain Credits: 3
- PETE 4820 - Blockchain in Energy Credits: 3
- EPE 5310 - Applied Blockchain for Oil and Gas Credits: 3

Elective Courses

Students can take electives from all the specialization areas of MEng, PETE courses, or the following list of approved courses across campus. Each course is 3 credits. Other electives may be selected with advisor approval.

- COSC 5010 - Graduate Topics in Computer Science Credits: 1-6
- ESE 4460 - Solar and Geothermal Engineering Credits: 3
- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 5474 - Energy Methods Credits: 3
- ME 5475 - Topics in Mechanical Engineering II Credits: 1-6
- CE 5430 - Environmental Engineering Chem Credits: 3
- CE 5470 - Water for Energy Credits: 3
- CE 5700 - Civil Engineering Problems I Credits: 1-3 (Carbon Capture and Storage: Section 3)
- CE 5810 - Groundwater Hydrology Credits: 3
- CE 5870 - Water Resource Engineering Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3
- GEOL 5250 - Mathematical Geosciences Credits: 3
- GEOL 5470 - Fire Ecology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3
- GEOL 5835 - Applied/Exploration Geophysics Credits: 3
- ECON 4400 - Environmental Economics Credits: 3

- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4430 - Energy Economics Credits: 3
- ECON 5400 - Advanced Resource and Environmental Economics Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ENR 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3
- ENR 5050 - Techniques in Environmental Data Management Credits: 4
- ENR 5150 - Environmental Science: Perspectives and Methods Credits: 3
- ENR 5500 - Risk Analysis Credits: 4
- ENR 5750 - ENR Law and Policy Credits: 3
- MGT 5504 - Energy Industry Value Chain Credits: 3
- MBAM 5506 - Energy Finance: Securities, Hedging, and Trading Credits: 3
- MBAM 5501 - Energy Economics and Policy Credits: 3
- EPE 5090 Energy Research Method
- EPE 5890 Energy Technology Seminar

Petroleum Engineering, M.S.

Petroleum M.S. Students With a B.S. In Petroleum Engineering

All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses

- PETE 5355 - Mathematical Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least three Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3

- PETE 5350 - Advanced Reservoir Engineering Credits: 3

Total Credits: 14 Hours

Plan A Thesis Additional Course Requirements:

- 4000-level or above approved electives Credits: 12
- PETE 5960 - Thesis Research Credits: 1-12

Total Credits: 30 Hours

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives **Credits / Units:** 14

- PETE 5970 - MS Plan B Research Project Credits: 1-2

Total Credits: 30 Hours

Petroleum M.S. Students With a B.S. In Chemical or Mechanical Engineering

All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses:

- PETE 5055 - Drilling Engineering Credits: 3
- PETE 5340 - Reservoir Engineering. Credits: 3
- PETE 5715 - Production Engineering Credits: 3

Core Courses

At least five Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3

- PETE 5350 - Advanced Reservoir Engineering Credits: 3

Total Credits: 26 Hours

Plan A Thesis Additional Course Requirements:

- 4000-level or above approved electives Credits: 7
- GEOL 4190 - Petroleum Geology Credits: 3
- PETE 5960 - Thesis Research Credits: 1-12

Total Credits: 40 Hours

Plan B Non-Thesis Additional Course Requirements:

- PETE 5970 - MS Plan B Research Project Credits: 1-2
- 4000-level or above approved electives Credits: 9
- GEOL 4190 - Petroleum Geology Credits: 3

Total Credits: 40 Hours

Graduate Seminar Requirements

All petroleum engineering PhD students must enroll in PETE 5890 - Petroleum Engineering Graduate Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester. MS students are required to take PETE 5890 for at least two semesters.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by a faculty mentor will work with their mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Petroleum Engineering, Ph.D.

Students with a B.S. in Petroleum Engineering

All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least three Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3

Electives

- 4000-level or above approved electives Credits: 21

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72

Students with an M.S. in Petroleum Engineering

All Petroleum Ph.D. students with an M.S. in Petroleum Engineering from UW must take the following required courses:

Plan A MS Courses Credits: 26

See Petroleum Engineering, M.S. program

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72

Students with an M.S. in Petroleum Engineering

All Petroleum Ph.D. students with an M.S. in Petroleum Engineering from another institution must take the following required courses:

Transferred MS Courses Approved by Student's Committee Credits: 14

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least four Core Courses from the following:*

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72 Hours

*Some or all of these credit hours can be transferred by petition, provided they are non-degree credits.

Students with an M.S. Degree in a Geoscience

All Petroleum Ph.D. students with an M.S. degree in a geoscience from another accredited institution must take the following required courses:

Transferred MS Courses Approved by Student's Committee Credits: 12

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least six Core Courses from the following:*

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

At Least Eight Additional Courses:

- Six (6) credits in advanced mathematics
- 18 credits in petroleum engineering

Petroleum Engineering Credits Include:

- PETE 5055 - Drilling Engineering Credits: 3
- PETE 5340 - Reservoir Engineering. Credits: 3
- PETE 5715 - Production Engineering Credits: 3

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 100 Hours

*Some or all of these credit hours can be transferred by petition, provided they are non-degree credits.

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890 - Petroleum Engineering Graduate Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by a faculty mentor will work with their mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if any, have been met and certification approved; (b) at least 30

hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and
- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they

may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

QuickStart Program

Petroleum Engineering Quick Start, B.S./M.S.

The BS/MS Quick Start program is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their BS degree in Petroleum Engineering. These students may apply for admission during their junior year.

Quick Start Program Requirements

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during their junior year or before starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

- Qualified students may receive provisional admission to the Petroleum Engineering graduate program prior to completing the normal application process. This provisional admission will permit students to make their long-term educational plans earlier in their studies, thus providing enhanced opportunities for course selection and involvement in research.
- Students in the program may apply up to 6 credit hours of 5000-level courses toward both the B.S. and M.S. degree programs. By completing successfully up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergraduate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Quick Start Prerequisites

Cumulative GPA of 3.25.

PETE GPA of 3.50

3 letters of recommendation, at least 2 from PETE faculty at UW.

- PETE 3200 - Reservoir Engineering Credits: 3
  Prerequisite courses: PETE 2050 and PETE 3025
- PETE 3255 - Basic Drilling Engineering Credits: 3
  Prerequisite courses: ES 2330 and PETE 2050
- PETE 3715 - Production Engineering Credits: 3
  Prerequisite courses: ES 2310, ES 2330 and PETE 2050

Transfer Students' Requirements

Must have taken at least two of the three required PETE courses listed above at UW.

Transfer course work must be from an accredited institution and deemed equivalent to current UW PETE core courses.

Must have completed at least 15 credit hours of PETE course work at UW prior to starting the Quick Start program.

Quick Start Program Retention

Prior to completion of the BS degree, students must:

- Complete all requirements for admission to UW graduate school and the PETE graduate program.
- The Graduate Records Examination (GRE) requirement will be waived.
- Additional English proficiency testing for admission is also waived for international students.
- Maintain a cumulative GPA of at least 3.25 in their overall undergraduate program.
- Maintain a GPA of 3.5 in their PETE courses.
- Maintain a GPA of at least 3.0 in 5000-level (graduate) courses.

- Failure to complete graduate admission requirements prior to the start of the final year of undergraduate study will result in immediate suspension from the program.
- Failure to meet any GPA requirements places a student on academic probation for one semester.
- If the GPA requirement is still not met after academic probation, the student will be suspended from the program.

Department of Physics and Astronomy

204 Physical Sciences Building,
(307) 766-6150
FAX: (307) 766-2652
Web site: www.uwyo.edu/physics
Department Head: Jinke Tang

Professors:

MICHAEL S. BROTHERTON, B.S. Rice University 1990; M.A. University of Texas at Austin 1992; Ph.D. 1996; Professor of Physics and Astronomy 2014, 2002.

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Professor of Physics 2007, 2000.

TEYU CHIEN, B.S. National Taiwan Normal University 2001; Ph.D. University of Tennessee-Knoxville 2009; Professor of Physics 2019, 2013, 2023.

DANIEL A. DALE, B.S. University of Minnesota 1993; M.S. Cornell University 1996; Ph.D. 1998; Professor of Physics and Astronomy 2009, 2001.

HENRY A. KOBULNICKY, B.S. University of Iowa 1991; M.S. University of Minnesota 1993; Ph.D. 1997; Professor of Physics and Astronomy 2014, 2002.

ADAM D. MYERS, M.S. Durham University, United Kingdom 2000; Ph.D. 2004; Associate Professor of Physics and Astronomy 2017, 2011; Professor of Physics and Astronomy Fall 2022

H. EDWARD SEIDEL, B.S. College of William and Mary 1981; M.S. University of Pennsylvania 1983; Ph.D. Yale University 1988; Professor of Physics and Astronomy 2020.

JINKE TANG, B.S. Jilin University 1982; M.S. Iowa State University 1990; Ph.D. 1989; Professor of Physics 2007.

Associate Professors:

MICHAEL J. PIERCE, B.S. University of Oklahoma 1980; M.A. University of Hawaii 1983; Ph.D. 1988; Associate Professor of Physics and Astronomy 2005, 2001.

JIFA TIAN, B.S. Beijing Normal University 2003; Ph.D. University of Chinese Academy of Sciences/Institute of Physics, CAS 2009; Associate Professor of Physics 2018, 2023.

WENYONG WANG, B.S. Nankai University 1993; M.S. Yale University 1999; Ph.D. 2004; Associate Professor of Physics 2014, 2008.

Assistant Professors:

MERIDITH JOYCE, B.S. Bucknell University 2013; M.A. Dartmouth College 2015; Ph.D. Dartmouth College 2018; Assistant Professor of Physics and Astronomy 2024.

MAXWELL MOE, B.A./B.S. University of Colorado, Boulder 2009; M.A. Harvard University 2011; Ph.D. Harvard University 2015; Assistant Professor of Physics and Astronomy 2022.

ALEXANDER P. PETROVIC, B.A. & M.Phys. University of Cambridge 2003; M.A. (Cantab) 2006; Ph.D. University of Geneva 2009; Assistant Professor of Physics 2023.

YU-TSUNG TSAI, B.S. National Chiao Tung University 2004; M.S. 2006; Ph.D. University at Buffalo 2015; Assistant Professor of Physics 2024

Senior Academic Professional Lecturer:

RÜDIGER MICHALAK, Dipl. Phys FZ Julich 1989; Ph.D. 1993; Academic Professional Lecturer in Physics and Astronomy 2007, 2004.

Assistant Academic Professional Lecturers:

RICHARD E. BARRANS Jr., B.A. Johns Hopkins University 1985; Ph.D. California Institute of Technology 1993; M.Ed. John Carroll University 2004, Assistant Academic Lecturer in Physics and Astronomy 2013, 2023.

AYSENUR BICER, B.S. Ege University 2006; M.S. 2009; Ph.D. Texas A&M University 2018; Assistant Lecturer in Physics 2019.

Adjunct Professors:

GABRIELLE ALLEN, PU DU, PAUL MARQUARD, WILLIAM RICE, ZHAOHUI SHANG, TIM SLATER, HANNAH JANG-JANG-CONDELL, EDMUND SYNAKOWSKI, JIMMIE VERLEY

Professors Emeriti:

RONALD W. CANTERNA, PAUL E. JOHNSON, A.RAYMOND KUNSELMAN, TERRY P ROARK, JAMES M. ROSEN, DAVID R THAYER

Physics originated in antiquity as the study of natural philosophy. As such, it attempts to describe the universe within the context of both physical laws and the fundamental particles of nature. The broad scope of physics runs from the microscopic nuclear structure and that of the elementary particles themselves to the macroscopic, the galaxy and evolution of the universe as a whole. Today the subject is generally divided into broad areas such as condensed matter, nuclear, elementary particles, astrophysics, etc. The department maintains competence in most major branches of physics and offers instruction in these areas at both the

undergraduate and graduate levels. In addition, it has a strong interest and involvement in science education.

Learning Outcomes

The B.S. and B.A. in Physics, the B.S. in Astronomy, and the B.A. in Physics and Physics Education all have the broad objectives enumerated below. These objectives are designed to promote the success of our majors in their chosen career path, whether that takes them into academia, secondary teaching, industry or further education:

- Provide students with problem-solving and data-manipulation skills appropriate to the growing range of scientific and technological careers in academia or industry.
- Develop students' oral, written, interpersonal and communication skills.
- Provide students with skills in experimental design, data collection, and data analysis through research experiences in a laboratory/computational/telescope setting.
- Educate students in the application of mathematical tools that will be useful for them to achieve success in a postcollege career.
- Provide a conceptual and analytical uderstanding of the core areas of physics and their specialty area.
- Provide students with an understanding of scientific reasoning, i.e., the roles of theory, hypothesis, and experiment in the scientific method.

The B.S. in Physics and the B.S. in Astronomy are primarily designed for students who wish to pursue post-graduate education or to have a more in-depth physics background. The Physics B.A. is primarily designed for students interested in pursuing a double major, or a professional career. The B.A. in Physics and Physics Education is structured for those interested in pursuing a secondary science teaching career.

Undergraduate Curriculum

The four-year physics programs are the Bachelor of Arts in physics and the Bachelor of Science in physics. The Bachelor of Science programs are intended for students who will pursue a career or a graduate degree in the field, whereas the Bachelor of Arts program is primarily geared toward those who are interested in pursuing physics as a second major. The department also offers a Bachelor of Science degree in Astronomy and Astrophysics.

Graduate Study

The Department of Physics and Astronomy offers the degrees of master of science in physics, master of science in teaching, and doctor of philosophy. Advanced degrees in physics may be based on experimental or theoretical research in physics or astrophysics.

Please refer to the departmental homepage at http://www.uwyo.edu/physics/ for the programmatic updates, or contact the department directly.

Program Specific Admission Requirements

We will begin to review applications in late January. Both the GRE general and physics subject exams are optional, and we will review all applications on their total merits. Students of all backgrounds, ethnicities, genders and countries of origin are encouraged to apply at http://www.uwyo.edu/admissions/apply-online.html

Applications should include:

-Resume or CV

-Undergraduate transcript

-A Personal Statement that says why you want to pursue a PhD, why Wyoming is a good fit for you, and what experiences you've previously had completing long-term projects

-Three letters of recommendation (this will be done through the application website)

-GRE scores Both the GRE general and physics subject exams are optional.

-TOEFL for non-native English speakers

-Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

The Physics and Astronomy Department commits to providing first- and second-year students with teaching assistantships for the nine-month academic year. More advanced students are generally supported on federal grants or fellowships. Both teaching and research assistantships carry a full tuition waiver and insurance. Summer assistantships are often available to students making satisfactory progress. Refer to http://www.uwyo.edu/physics/ for current amounts.

Major

Astronomy and Astrophysics, B.S.

The Bachelor of Science in Astronomy & Astrophysics program prepares students for graduate school, or a career in astronomy/astrophysics or a related field.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirement

Students in the Bachelor of Science in Astronomy major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- ASTR 1050 - Survey of Astronomy Credits: 4
- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4

- ASTR 4610 - Introduction to Astrophysics Credits: 3
- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4420 - Electricity and Magnetism II Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3

Additional Description

See the "Prerequisite and MPE Cut Score Reference Chart" on the Math Placement website for the most up-to-date math placement equivalencies: http://www.uwyo.edu/mathstats/math-placement/.

For declared physics/astronomy majors, the prerequisite of Math 2200 for PHYS 1210 is waived and concurrent enrollment is approved.

For declared physics/astronomy majors, the prerequisite of Math 2205 for PHYS 1220 is waived and concurrent enrollment is approved.

If intending to apply to graduate school, plan to take the physics GRE by fall semester of the senior year

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. • Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions in the University Catalog and consult with their academic advisor to plan accordingly.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better.

Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major

The Bachelor of Science degree in astronomy and astrophysics is administered by the Department of Physics and Astronomy faculty. Please see the Physics and Astronomy listing in this *Catalog* for more information.

Physics, B.A.

The Bachelor of Arts (BA) in Physics degree program provides a pathway for more students to major in physics, as a second major to physical chemistry, mathematics, and engineering, for example.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

Students in the Bachelor of Arts in Physics major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4

  OR
- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

  OR
- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Electives

- Students are required to take at least 3 hours of electives from any PHYS 4000 or 5000 level course.

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions and consult with their academic advisor to plan accordingly.

A major requires 42 hours of upper division (3000 level or above) coursework, 30 of which must be from the University of Wyoming.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better. Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

For declared physics majors, the prerequisite of MATH 2200 for PHYS1210 -is waived and concurrent enrollment is approved.

For declared physics majors, the prerequisite of MATH 2205 for PHYS 1220- is waived and concurrent enrollment is approved.

If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.

Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take the necessary required courses (e.g. LIFE 1010, MOLB 3000 etc.)

Physics, B.S.

The Bachelor of Science in Physics program is intended for students who will pursue a career or a graduate degree in physics or related fields.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3

- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirement for Major in Physics

Students in the Bachelor of Science in Physics major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4
  OR
  PHYS1310 - College Physics I Credits 4
- PHYS 1220 - Engineering Physics II Credits: 4
  OR
  PHYS1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- PHYS 4420 - Electricity and Magnetism II Credits: 3
- PHYS 4830 - Mathematical and Computational Physics I Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3

Electives

Students are required to take at least 3 hours of electives from any PHYS 4000 or 5000 level course.

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions and consult with their academic advisor to plan accordingly.

A major requires 42 hours of upper-division (3000 level or above) coursework, 30 of which must be from the University of Wyoming.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better. Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

For declared physics majors, the prerequisite of MATH 2200 for PHYS 1210 is waived and concurrent enrollment is approved.

For declared physics majors, the prerequisite of MATH 2205 for PHYS 1220 is waived and concurrent enrollment is approved.

If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.

Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take the necessary required courses (e.g. LIFE 1010, MOLB 3000 etc.)

Minor

Astronomy Minor

A minor in astronomy appeals to students who have an interest in astronomy but intend to pursue a degree in some other field

Complete

- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4

Additional Requirements

Students minoring in Astronomy gain exposure to the principles of astronomy, physics, and mathematics. They learn to think critically and evaluate, interpret, and solve problems related to astronomical, as well as other technical and general scientific topics

Physics Minor

A minor in physics appeals to students who have an interest in physics but intend to pursue a degree in some other field.

Complete

- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3

At Least Two of the Following:

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3

Additional Requirements

The physics minor provides students with the fundamental concepts of physics beyond the introductory level. Through rigorous hands-on experience, students deepen their understanding of foundational concepts and develop their quantitative skills.

Quantum Information Science & Engineering, Minor

The field of quantum information science and engineering (QISE) is increasingly pivotal in technological and scientific innovations.

Core Courses

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2870 Quantum Mechanics for Non-physicists
- Introduction to Quantum Computing

Elective (Students pick one)

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4340 - Semiconductor Materials and Devices Credits: 3
- PHYS 4710 - Solid-State Physics Credits: 3
- PHYS 4720 - Solid State Electronic Devices Credits: 3

Graduate

Physics, M.S.

Thesis planning, development, and production guided by the committee chair and graduate committee.

The University of Wyoming Master of Science in Physics program prepares students for a wide range of exciting physics-related careers

Requirements

Plan A (Thesis)

- 26 hours of graduate coursework, 20 of which must be in PHYS/ASTR at the 5000-level
- 4 hours of PHYS 5960

Plan B (Non-Thesis)

- 30 hours of graduate coursework, 24 of which must be in PHYS/ASTR at the 5000-level

Physics, M.S.T.

The Master of Science in Teaching is designed for graduate students preparing to teach in secondary schools or in community colleges. It includes a small, carefully designed component in psychology and education as well as a supervised teaching experience. This program will require a thesis project based on experience in the classroom.

Thesis planning, development, and production guided by the committee chair and graduate committee.

Requirements

Plan A (Thesis)

- 18 hours from PHYS/ASTR at the 5000-level
- 12 hours from PSYC or the College of Education at the 4000- or 5000-level

Additional Requirements

The Master of Science in Physics with emphasis in Teaching is designed for graduate students preparing to teach in private secondary schools or in community colleges. It includes a small, carefully designed component in psychology and education, and includes experience as a teaching assistant. Students interested in this program should contact the current advisor, Prof. Tim Slater.

Physics, Ph.D.

During the first two years, students normally take physics and astronomy courses while working with faculty members on one or more research projects. Course work consists of several required courses plus a number of elective courses. Students participate in weekly research seminars and journal clubs to learn about a broad range of current research. By the

third year, Ph.D. students begin research work in the area of their dissertation.

Ph.D. candidates demonstrate their competency in basic undergraduate physics and in required graduate courses through a written examination. After passing the written exam, students will take an oral preliminary exam based on a research project they have completed during the first two years. At the completion of the Ph.D. dissertation, a candidate makes a public presentation of his or her work and the committee conducts a final examination to award the degree.

Requirements

- 42 hours of graduate coursework
- 30 hours of PHYS 5980 or PHYS 5860. Dissertation planning, development, and production guided by the committee chair and graduate committee.

Tracks:

- Physics, Physics Track, Ph.D.
- Physics, Astronomy Track, Ph.D.

Additional Requirements

The Physics PhD program educates students to become scholars and researchers in physics. Our graduates are trained to teach and to carry out original research that is theoretical, experimental, computational, or a blend of these approaches.

School of Computing

Engineering Building, Room 4083
Phone: (307)766-5299 Email: uwyo-soc@uwyo.edu

Gabrielle Allen, Director
Website: www.uwyo.edu/soc

The School of Computing is a hub of innovation and knowledge exchange for computing and digital skills.

The school aims to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the computational tools, skills and approaches to drive transformation and innovation in the state. The School of Computing champions broader efforts to make the University of Wyoming more digital, inclusive, interdisciplinary, and

entrepreneurial through computing partnerships across Wyoming.

Vision:

Create a unique and inspirational School of Computing with national impact and global reach, providing Wyoming and the world with agile and ethical computing professionals, empowered to address societal challenges that are inherently interdisciplinary.

Mission:

Position our land grant institution as: a national leader in computational and digital research, education, and engagement; a computational hub for students, faculty, staff, community, and our industry/state/academic partners; a steward, supporter, and developer of digital skills and computational thinking for all.

Values:

- Excellence in research, teaching, and engagement
- Partnership and collaboration
- Diversity, equity, and inclusion in computing
- Context-based experiential learning
- Computing across disciplines, including social sciences, arts, humanities and STEM

Centers:

WyGISC is an interdisciplinary research and education institute at the University of Wyoming. The Wyoming Geographic Information Science Center (WyGISC) is an interdisciplinary academic center focused on education, research and development of geospatial information and technologies and their applications in science, government, business, and other areas.

The Data Science Center provides an academic hub for data science at UW, providing the key academic component in a "UW Data Science Collaboratory" (DSC, Library, ARCC, WyGISC, WNA, Maker Space, Extension along with disciplinary partners including AHC, INBRE Data Core, WYNDD, RMH, 3D Viz, NSF WyACT, etc).

Engagement Programs:

Data Science Center Fellows

The Data Science Center supports two Faculty Fellows each academic year in pursuit of excellence in research, teaching, and engagement in data science at the University of Wyoming.

Faculty Fellows

The Faculty Fellows program supports projects that advance computing research, learning, and engagement across the university, with a focus on aligning with university initiatives, fostering applied computing, impacting student experiences, integrating the School of Computing, and promoting digital for all.

Graduate Computing Scholars

Graduate Computing Scholars are proudly supported for being outstanding graduate students demonstrating immense potential in their computational careers. They are enrolled in Ph.D. or Master's programs at the University of Wyoming, pursuing research projects where innovative computing and/or the advancement of computing play a crucial role.

UW Derecho Professors

The *UW Derecho Professor* designation provides named professors in any academic field with up to 5 million core hours of access to both traditional compute nodes and accelerators on the Derecho supercomputer at the NCAR Wyoming Supercomputing Center (NWSC). Leveraging and enhancing the UW-NCAR partnership, the initiative contributes to recruiting and retaining UW faculty whose research program in computing will be strengthened through a flexible and guaranteed allocation on this resource.

Visiting Scholars

Visiting Scholars are used to support short-term visiting scholars that are faculty, post-docs, or advanced graduate students (in the final 2 years of studies). The funds may be used to cover travel, lodging, and meal costs as well as a stipend for the visiting scholar.

Personnel:

All personnel affiliated with the School of Computing is listed accordingly at https://www.uwyo.edu/soc/people/index.html.

The People at the School of Computing webpage includes the Administrative Team, Advisory Board, Graduate Students (internal and external to the School), Faculty (Research Scientists, Core, Adjunct, and Post-Doctoral Associates), and UW Derecho Professors.

Accreditation:

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education.

Program Specific Admission Requirements (Undergraduate)

Undergraduate students apply for admission to the University of Wyoming and then declare a major or minor within SoC at any point during their course of study. To declare a major, students must meet with their SoC affiliated academic advisor. Any student wanting to add the SoC minor should consult an SoC affiliated advisor to streamline their program.

All SoC programs will emphasize experiential learning and encourage interdisciplinary courses when possible.

General Policies:

- A minimum 2.00 UW GPA is required to apply for the minor.
- It is the student's responsibility to monitor requirements for the minor, along with their advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the minor must be passed with a grade of "C" or better.

Program Specific Admission Requirements (Graduate)

Graduate GIST Certificates and Degrees - see https://www.uwyo.edu/wygisc/academics/graduate-programs/index.html

Major

Applied Software Development, B.S.

Combines practical experience and knowledge of modern programming languages, tools, and processes used in the rapidly evolving field of Software Development.

Wyoming Commmunity College Courses

At least 2 elective courses need to be upper division.

- USP FYS - First Year Seminar/USP Elective - Fall Year 1 - Credits: 3

- COSC 1010 - Intro to Computer Science - Fall Year 1 - Credits: 3
- INET 1650 - Web Programming I - Fall Year 1 - Credits: 3
- SDEV 1000 - Software Development Skills 1 - Fall Year 1 - Credits: 3
- MATH 1400 - College Algebra or higher for USP Q - Fall Year 1 - Credits: 3
- ENGL 1010 - College Composition and Rhetoric or higher for COM1 - Fall Year 1 - Credits:3
- SDEV 1200 - Programming Python - Spring Year 1 - Credits: 3
- COSC 2050 - Intro to SQL - Spring Year 1 - Credits: 3
- SDEV 1100 - Software Development Skills II - Spring Year 1 - Credits 3
- USP PN - Spring Year 1 - Credits 4
- USP COM2 - Spring Year 1 - Credits: 3
- INET 2010 - Data Driven Web Sites - Fall Year 2 - Credits: 3
- SDEV XXXX - 2100 Mobile Development or 2250 Web App Client Frameworks for elective - Fall Year 2 - Credits: 3
- SDEV 2150 - Agile Project Management - Fall Year 2 - Credits: 3
- USP H - Fall Year 2 - Credits: 3
- USP H - Fall Year 2 - Credits: 3
- SDEV 2395 - Software Development Capstone - Spring Year 2 - Credits: 3
- SDEV 2200 - Secure Software - Spring Year 2 - Credits: 3
- SDEV 2300 - DevOps - Spring Year 2 - Credits: 3
- USP V - US & WY Constitution - Spring Year 2 - Credits: 3
- STAT 2050 Fundamentals of Statistics - Spring Year 2 - Credits: 4
- **CC Total: 66 Credits**

University of Wyoming Courses

- PN - - Physical and Natural World (1) Credits: 3 Fall Year 3
- COSC 1030 - Computer Programming Credits: 4 Fall Year 3
- COMP 2000 - Computing and Society Credits: 2 Fall Year 3
- SDEV 3000 - Foundations of Software Systems Credits: 3 Fall Year 3
- Elective - Choose one course from (COMP, COSC, GIST, or SDEV) - Fall Year 3 - Credits: 3
- SDEV 2030 - Data Structures Credits: 1-4 Spring Year 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3 Spring Year 3

- SDEV 3011 - Introduction to Software Design Credits: 3 Spring Year 3
- SDEV 3100 - User Design Experience Credits: 3 Spring Year 3
- Elective - Choose 1 from (COMP, COSC, GIST, or SDEV) Spring Year 3 - Credits: 3
- SDEV 3765 - Computer Security Credits: 3 Fall Year 4
- SDEV 3020 - Applied Algorithms Credits: 3 Fall Year 4
- SDEV 3500 - Performance and Testing Credits: 3 Fall Year 4
- SDEV 4730 - Mobile Application Programming Credits: 3 Fall Year 4
- Elective - Choose 1 from (COMP, COSC, GIST, or SDEV) - Spring Year 3 - Credits: 3
- SDEV 4000 - Advanced Programming for Developers Credits: 3 Spring Year 4
- SDEV 4840 - Software Engineering Enviorments Credits: 4 Spring Year 4
- Elective - Choose 1 from (COMP, COSC, GIST or SDEV) - Spring Year 3 - Credits: 3
- COMP 4000 - Practicum I Credits: 4 Spring Year 4
- **UW Total: 61 Credits**
- **Grand Total: 127 Credits**

Geospatial Information Science and Technology, B.S.

The Bachelor of Science degree in Geosptatial Informatoin Science and Technology (GIST) provides a quality educational experience that combines proficiency in spatial thinking and geospatial data science analysis with fluency in geographic information systems, remote sensing, and data visualization.

Degree Requirements

This degree requires [120] credits, [42] of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3

- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Mathematics and Statistics Requirement: 9-10 credits

Students must complete 5-6 credits of mathematics and 4 credits of statistics by completing one of the following course combinations:

Mathematics requirement (fulfills USP Q requirement):

- MATH 1400 - College Algebra Credits: 3

AND

- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5

Statistics Requirement:

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Core Requirement: 26 Credits

Complete all courses

- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartography Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 3050 - Spatial Database Design and Management Credits: 3
- GIST 4780 - Capstone in GIS&T Credits: 3

Experiential Learning Requirement: 6 credits

Students must take 6 credits of experiential learning. This requirement can be met by taking 6 credits from one of the listed courses below, or a combination of credits equal to 6 from the listed courses below.

- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6

GIST Electives: 30 credits

Students must take 30 credits of GIST electives; up to 10 credits can be from GIST-related courses from other disciplines, with approval from their advisor; at least 18 of the 30 credits must be upper division (3000 or above). Current electives are listed below:

- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 4130 - Applied Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6

Discipline Concentration Requirement: 16-24 credits

GIST is best practiced with a specialized knowledge base outside of GIST. Students must declare a minor in another discipline or create discipline concentration outside of GIST, with approval of their advisor; a second major can also meet this requirement.

Minor

Computing Minor

The minor in computing encourages students to explore the application of computing and digital technologies in their major discipline and to prepare for careers that are impacted by new technology.

The minor focuses on providing broad and accessible opportunities for experiential learning and the acquisition of core computing competencies. The flexible nature of the minor allows students to tailor the program for their primary program of study and computing interest.

Additional Information

This minor is a new program housed within the School of Computing. Please contact us to discuss how to tailor these courses to your declared major.

CONTACT US:

School of Computing

Engineering Building, Room 4083
Phone: 1 (307) 766-5299
Email: uwyo-soc@uwyo.edu

Course Requirements

- COMP 2000 - Computing and Society Credits: 2
  OR discipline specific computing focused course on computing and society
- COMP 3000 - Basic Computing Credits: 3
  OR discipline specific foundational computing course
- COMP 3500 - Advanced Computing Credits: 3
  OR discipline specific depth of computing course
- COMP 4000 - Practicum I Credits: 4

  Computer Programing Course Credits: 3
  Computing Electives Credits: 3

Interdisciplinary Computational Science Graduate Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Graduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

Requirements

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn at least 12 credits in graduate level classes (5000).
- Within the 15 credits, the student must earn 6 credits outside of her/his department.
- Only grades of B or better will be accepted for a course counting towards the minor.
- For all students, the 15 hours of coursework will be divided into 9 credit hours of core courses and 6 credit hours of electives.

Core Courses

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3

OR

- COSC 5310 - Computational Methods in Applied Sciences I Credits: 3
- COSC 5010 - Graduate Topics in Computer Science Credits: 1-6
- MATH 5340 - Computational Methods II Credits: 3

OR

- COSC 5340 - Computational Methods II Credits: 3

- BOT 4550 - Computational Biology Credits: 4

OR

- BOT 5550 - Computational Biology Credits: 4
- GEOL 4030 - Groundwater Flow and Solute Transport Modeling Credits: 3

OR

- GEOL 5030 - Groundwater Flow and Solute Transport Modeling Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3

Electives

- COSC 5110 - Analysis Of Algorithms Credits: 3
- STAT 5680 - Advanced Bayesian Statistics Credits: 3

- STAT 5380 - Bayesian Data Analysis Credits: 3
- High-Performance Computing in Geosciences, 2 hrs
- MATH 5320 - Mathematics Modeling of Processes Credits: 3

- CHEM 4560 - Molecular Modeling Credits: 3

OR

- CHEM 5560 - Molecular Modeling Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3

Interdisciplinary Computational Science Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Undergraduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

The Undergraduate Minor in Computational Science is based on the following requirements:

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn 9 credits at the upper-division level (3000 or above).
- Within the 15 credits, the student must earn 6 credits outside of her/his major.
- Within the 15 credits, the student must earn at least 6 credits in core courses.
- Only grades of C or better will be accepted for the minor.

The 15 hours of coursework are divided between core and elective courses as listed below.

Core Courses

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

OR

- COSC 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3
- High-Performance Computing (Offered as a topics course).
- MATH 3340 - Introduction to Scientific Computing Credits: 3

OR

- COSC 3340 - Introduction to Scientific Computing Credits: 3

- STAT 4460 - Statistical Software Credits: 1

Elective Courses

- BOT 4550 - Computational Biology Credits: 4

OR

- BOT 5550 - Computational Biology Credits: 4
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- CHEM 4560 - Molecular Modeling Credits: 3

OR

- CHEM 5560 - Molecular Modeling Credits: 3
- ES 3070 - C with Numerical Methods for Engineers
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3
- ME 4040 - Introduction to Finite Elements Credits: 3
- COSC 4820 - Database Systems Credits: 3

Graduate

Artificial Intelligence, M.S.

This program will be focus on advanced study and research in the field of AI including Explainable AI. It is designed to equip students with the necessary knowledge, skills, and expertise to understand, develop, and apply AI technologies in various disciplines.

Program Curriculum

Core Courses (12 credits)

The program begins with foundational courses covering essential AI topics, such as machine learning, computer vision, and data mining.

These courses provide a solid understanding of AI's fundamental principles and algorithms.

COSC 4550/5550 Introduction to Artificial Intelligence

COSC 4555/5555 Machine Learning

COSC 4557/5557 Practical Machine Learning

COSC 4570/STAT 4240/5240 Data Mining.

Elective Courses(12 credits for Plan A and 16 credits for Plan B).

Students can choose from various elective courses based on their interests and career goals. These courses may include specialized topics like deep learning, natural language processing, reinforcement learning, neural networks, robotics, AI ethics, AI in healthcare, AI for business, and intelligent agents. Electives allow students to deepen their knowledge in specific areas of AI that align with their research or professional interests.

PHIL 5440 Topics in the Philosophy of Mind

COSC 5560 Modern Robots and Softbots

Research Projects for Plan B Students:

Throughout the Plan B degree program, students are involved in research projects supervised by faculty members or industry experts. These projects provide hands-on experience designing and implementing AI systems, conducting experiments, analyzing data, and addressing real-world AI challenges. Research projects often culminate in a final research paper.

Seminars (2 credits)

Regular seminars and workshops will be organized to expose students to the latest research advancements, emerging trends, and challenges in AI. Experts from academia, industry, and government will deliver talks and engage in discussions, allowing students to broaden their perspectives and stay updated with the evolving AI landscape. The SoC and EECS will host, cohost, or support tech talks, colloquia, or speaker series with discipline-specific and broad AI foci.

Year 1: Fall

- COSC 4550 - Introduction to Artificial Intelligence Credits: 3

  OR

  COMP 5300 Basic Computing II. Credits: 3; The overarching goal is that students understand how to use basic computational and digital tools and approaches to solve problems across scientific, social, and human domains. This course will allow students to explore or embed their desired contextual disciplines into the foundational concepts of the School of Computing. (This is not an established UW course yet; it is proposed for development in the SoC post-baccalaureate graduate certificate program).
- COSC 4555 - Machine Learning Credits: 3

OR

- COSC 4557 - Practical Machine Learning Credits:
- STAT 4270 - Applied Bayesian Statistics Credits: 3

OR

- STAT 5280 - Models for Hierarchical Data Credits: 3

OR

- STAT 5380 - Bayesian Data Analysis Credits: 3

Year 1: Spring

- STAT 4240 - Data Mining Credits: 3

Natural Language Processing (NLP). Credits: 3; Text preprocessing and tokenization, language modeling and syntactic analysis, named entity recognition and sentiment analysis, machine translation and question answering.

OR

- COSC 5220 - Languages and Automata Credits: 3
- COSC 5540 - Computer Vision Credits: 3

Year 2: Fall

Deep Learning. 3 credits. Topics include neural networks and their architectures, convolutional neural networks (CNNs) for computer vision, recurrent neural networks (RNNs) for sequential data, and deep reinforcement learning

OR

- EE 5410 - Neural and Fuzzy Systems Credits: 3

OR

- EE 5440 - Geometric/Deep Computer Vision Credits: 3
- COSC 5552 - Advanced Topics in AI Credits: 1-3

OR

- **COMP 5350 Advanced Computing II.** Credits: 3; Students will learn how to use the digital tools available in their fields of study as well as understand the theory of how digital approaches and computational methods will change their fields in the future. This course allows for the depth of knowledge within any discipline to be computationally driven towards competency and fluency. (This is not an established UW course yet; it is proposed for development in the SoC post baccalaureate graduate certificate program)
- Other graduate electives with focus on AI or application of AI OR COSC.

OR

- Seminars and Workshops. 2 Credits

Year 2: Spring

- COSC 5960 - Thesis Research Credits: 1-12
- Other graduate electives with a focus on AI or the application of AI OR COSC. Seminars and Workshops. 2 Credits.

Geospatial Information Science and Technology, Professional M.S.

The Professional Master's in Geospatial Information Science and Technology (GIST) provides working professionals or distance students the opportunity to develop and improve their geospatial knowledge and skills. Core courses cover GIS basics, geospatial programming, data visualization, enterprise systems, web GIS, and spatial modeling, while electives provide the chance to explore specific areas of interest. The Professional Master of Science Degree is delivered online and does not require a thesis.

Coursework

Core Requirements: 24 credits

Complete all core courses; (GIST 5002 must be taken twice).

- GIST 5002 - Geospatial Forum Credits: 1
  must be taken twice with second occurence in the same semester as GIST5780. **Credits / Units:** 1
- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5200 - Geographic Visualization Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3
- GIST 5280 - Navigating GIST Professions Credits: 1
- GIST 5300 - Web Mapping and Internet GIS Credits: 3
- GIST 5350 - Enterprise GIS Credits: 3
- GIST 5780 - GIS&T Capstone Credits: 3

Electives: 9 credits

Complete 9 credits of electives from GIST or interdisciplinary GIST-related courses (5000 or above) as approved by advisor.

Total Credits: 33

Geospatial Information Science and Technology, Research (Thesis) M.S.

The Research Master of Science in Geospatial Information Science and Technology gives students the opportunity to develop geospatial research and applied skills. Students complete core geospatial courses and a collaborate with a faculty advisor to complete a research thesis. This degree is delivered on the UW campus with options for online courses.

Coursework

Core Requirements: 13 credits

Complete all courses

- GIST 5002 - Geospatial Forum Credits: 1
- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5200 - Geographic Visualization Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

Electives: 15 credits

Students are required to take 15 credits of GIST or GIST-related elective courses (5000 or above) as approved by their faculty advisor and graduate research committee.

Research Requirement

Students are required to complete a minimum of 4 credits of thesis research (GIST5960). Students must also work with a faculty advisor and graduate research committee to conduct, complete, and defend a geospatial thesis project.

- GIST 5960 - GIST Thesis Research Credits: 1-12

Total Credits: 32 minimum

Quantum Information Science & Engineering, M.S.

The Master of Science in QISE program consists of two years of coursework, thesis research, research projects, and practical applications of QISE. The program will offer both Plan A and Plan B degrees, comprising 30 required credits.

Curriculum Map and Program Structure

The MS in QISE is a critical component of the EECS department's goal of developing a research program that is nationally and internationally competitive and relevant to Wyoming by focusing on a few specific areas that have significant anticipated funding growth and economically disruptive technologies. Those areas are (a) modern power grid data analysis and modeling, (b) Quantum machine learning, (c) Quantum security and Internet, and (d) Quantum financing.

The MS in QISE is also central to the aims of the School of Computing and Physics department to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the quantum computational tools, skills, and approaches to drive transformation and innovation in the state.

Year 1 Fall

- Quantum Mechanics for Non-Physicists* - Being developed for a Minor in QISE, Physics Dept
- EE 5885 - Introduction to Quantum Computing, Offered in Fall 2021, Fall 2022, and Spring 2024.
- Elective* Spring • Quantum Information Theory*
- Quantum Algorithms and Applications* •
- Elective - EE5885 - Quantum Optimization and Machine Learning* - To be offered in Fall 2024

Year 2 Fall

- Quantum Hardware and Technology*
- Research Methods*
- Elective* 130 Spring
- EE 5960 Thesis Research: Credits: 4; Designed for students involved in research for their thesis project. It is also used for students whose coursework is complete and who are writing their thesis.

* New Courses to be developed or under development

Certificate

Geographic Information Systems (GIS) Graduate Certificate

This 15-credit graduate certificate gives you a rigorous academic credential in GIS that includes exposure to fundamental and advanced concepts and the chance to pursue your own interests with generous elective opportunities.

Core Requirements (9 Credits)

Complete all courses

- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

Electives (6 Credits)

Choose from other GIST or interdisciplinary courses with GIS-related foci.

Total: 15 Credits

Geographic Information Systems (GIS) Undergraduate Certificate

The undergraduate certificate in GIS provides opportunities for students to add geospatial training to their majors. The GIS certificate requires three courses (10 credits). This certificate can be added to any major using the Change of Major form available at the Registrar's Office Online Forms and Petitions site.

Undergraduate Certificate in GIS

Complete all courses

- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3

- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Remote Sensing Graduate Certificate

Remote sensing scientists use data collected by satellites, aircraft, and Uncrewed Aerial Systems (drones) to address questions important for agriculture, natural resource and wildlife management, global change science, energy development and other applications. From Google Earth to complex spectral analysis, remote sensing is playing an increasingly important role in many fields. This 15-credit online graduate certificate teaches you the fundamentals of remote sensing and digital image processing, and the freedom to use elective courses to pursue your own interests in related topics.

Core Requirements (6 Credits)

Complete all courses

- GIST 5111 - Introduction to Remote Sensing Credits: 3
- GIST 5120 - Integration of RS and GIS Data Credits: 3

Electives (9 Credits)

- Choose from other remote sensing and UAS courses or interdisciplinary RS courses

Total: 15 Credits

Remote Sensing Undergraduate Certificate

The undergraduate certificate in Remote Sensing provides opportunites for students to add training in how to use and interpret imagery acquired from aircraft, satellites, or ground-based platforms. The Remote Sensing certificate has one required 3-credit course plus electives for a total of 9 credits. This certificate can be added to any major using the Change of Major form available at the Registrar's Office Online Forms and Petitions site.

Core Requirements (3 credits)

- GIST 3140 - Introduction to Remote Sensing Credits: 3

OR one of the following courses

- GIST 4130 - Applied Remote Sensing Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

Electives (6 credits)

Select any remote sensing or UAS courses (6 credits)

Total: (9 credits)

Uncrewed Aerial Systems Graduate Certificate

In this certificate program, you will learn to safely use Uncrewed Aerial Systems (drones) and to collect and process geospatial data acquired by them. Demand for professionals trained to operate drones and process drone imagery is growing rapidly in agriculture, natural resource management, construction, energy, transportation, business, and many other fields. A significant aspect of this 11-credit online graduate certificate (with a 2-credit, field-based flight school) is to prepare you to become an FAA certified pilot and to use industry-standard image processing techniques.

Core Requirements (8 Credits)

Complete all courses

- GIST 5410 - UAS Sensors and Platforms Credits: 1
- GIST 5420 - UAS Mission Planning Credits: 1
- GIST 5430 - UAS Regulations and Safety Credits: 1
- GIST 5440 - UAS Ground School and Operations Credits: 2

This course is a 3-day workshop taught on campus; offered twice per year.

- GIST 5450 - UAS Data Acquisition and Processing Credits: 3

Electives (3 Credits)

Choose from remote sensing courses or interdisciplinary UAS applications courses.

Total: 11 Credits

Division of Communication Disorders

265 Health Sciences, (307) 766-6427

FAX: (307) 766-6829

Web site: www.uwyo.edu/comdis

Director: Mark Guiberson

Professors:

MARK GUIBERSON, B.A. University of Colorado 1997; M.A. 1999; Ph.D. Colorado State University 2006; Professor of Speech-Language Pathology 2019, 2011.

DOUGLAS PETERSEN, B.A. Utah State University 1999; M.Ed. Utah State University 2002; Ph.D. Utah State University 2010.

Associate Professors:

BREANNA KRUEGER, B.A. University of Wyoming 2007; M.A. University of Kansas 2011; M.A. 2013; Ph.D. 2017; Associate Professor 2023, 2017.

Assistant Professors:

KATELYN J. KOTLAREK, B.S. University of Wisconsin-Madison 2012; M.S. Florida State University 2014; Ph.D. East Carolina University 2019; Assistant Professor 2019.

ZOE KRIEGEL, B.S. Kent State University 2016; M.S. Bowling Green State University, 2018; Ph.D. Bowling Green State University, 2022.

AMY K. PETERSON, B.S. University of Wyoming 2008; M.S. University of Wyoming 2010; Ph.D. Utah State University, 2022.

Lecturers:

SHELLEY BARTON, B.A. University of Wyoming 2005; M.S. 2008; Instructor 2018.

ESTHER HARTSKY, B.A. Adams State University 2000; A.A.S. Pikes Peak Community College 2004; MA University of Northern Colorado 2021, Assistant Lecturer 2017.

KARLEE SMITH, B.S. University of Wyoming 2014; M.S. University of Wyoming 2013; Lecturer 2020.

Clinical Professors:

TERESA J. GARCIA, B.S. University of Wyoming 1989; M.S. 1991; Clinical Professor 2020, 2016, 1995.

Associate Clinical Professors:

CORRI SANDOVAL, B.S. University of Wyoming 2000; M.S. 2010; Associate Clinical Professor 2020.

Assistant Clinical Professors:

HEIDI CLARK, B.S. University of Virginia 1998; M.A. Kent State University 2000; Assistant Clinical Professor 2020.

HANNAH YOUNG, B.S. University of Wyoming 2015; M.S. Pennsylvania State University 2017; Assistant Clinical Professor.

Adjunct Clinical Instructor:

Melissa Denker, M.S., CCC-SLP

Professors Emeriti:

Michael A. Primus, Mary Hardin-Jones, David L. Jones

About the Division of Communication Disorders

The Division of Communication Disorders offers three academic programs: a certificate in American Sign Language Studies, a Bachelor's of Science (B.S.) degree in

Speech, Language and Hearing Science, and a Master of Science (MS) degree in Speech- Language Pathology. Information on these programs can be found on the links on the bottom of this page. The Division is also home to the University of Wyoming Speech & Hearing Clinic. Information about the Division's Vision, Mission, and Strategic Plan can be found on the Division website, as well as important information about the Division's Diversity, Equity, and Inclusion statement (https://www.uwyo.edu/comdis/index.html).

Speech and Hearing Clinic

The UW Speech and Hearing Clinic is a training center for students from the Division of Communication Disorders, including B.S. students in the Speech, Language, and Hearing Sciences program and M.S. students in the Speech-Language Pathology program. Student clinical experiences occur under the direct supervision of state licensed and ASHA-certified speech-language pathologists (CCC-SLP) The clinic also provides audiology services from a ASHA-certified and state licensed audiologists (CCC- A). In addition to on-campus services, the clinic provides telepractice speech-language pathology services. Clinical services are available to students, faculty as well as the larger community. More information can be found on the UW Speech and Hearing Clinic website: https://www.uwyo.edu/comdis/uw-speech-and-hearing-clinic/index.html.

Major

Speech, Language and Hearing Science, B.S.

Learn about working with people to improve their speech, language, and hearing. Study American Sign Language. This pre-professional degree is preparation for application to a graduate studies in speech-language pathology, audiology, or other areas.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Courses required for major

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- PHYS 1050 - Concepts of Physics Credits: 4 (Meets Physical and Natural World USP requirement)
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- FCSC 2121 - Child Development Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- SPPA 1010 - Introduction to Communication Disorders Credits: 3
- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- SPPA 2210 - Phonetics Credits: 3
- SPPA 3160 - Speech and Language Development Credits: 4
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- SPPA 4240 - Speech and Language Disorders Across the Lifespan Credits: 3
- SPPA 4340 - Basic Audiology Credits: 3
- SPPA 4150 - Aural Rehabilitation Credits: 3
- SPPA 4250 - Clinical Methods Credits: 4
- SPPA 4380 - Neurological Basis of Communication Credits: 3

Elective Courses

Upper-Division Social Behavior Credits (choose one)

Choose one from the list below (students are responsible for knowing prerequisites for these courses).

- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- PSYC 4310 - Developmental Psychopathology Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3

Electives

Lower division (1/2000) open electives (student choice - any course that does not meet another university or major requirement): 24 credits

Upper division (3/4000) open elective (student choice - any course that does not meet another university or major requirement): 12 credits

Notes:

A grade of C or better must be earned in all SPPA courses; courses in the major must be taken for a letter grade unless offered for S/U only.

Speech, language, and hearing topic courses from community colleges do not transfer or count as course equivalents. Students can reference the UW Transfer Catalog to determine if an American Sign Language course taken elsewhere will transfer to UW as a course equivalent.

Due to degree and related accreditation requirements for this program, official grades recorded on a college transcript are required for the following courses (AP/IB scores can not be used):

- LIFE 1010
- STAT 2050
- PSYC 1000
- PHYS 1050 or CHEM 1020

Additional Information

The BS degree prepares students for graduate study in communication disorders disciplines. Students study the normal processes associated with understanding and producing speech and language. These include anatomy, physiology, and neurology. Students also learn about normal

development of speech and language in children, and they are introduced to disorders and clinical methods. Courses in related areas, such as anatomy, psychology, child development, and statistics are also part of the program. Students may obtain initial clinical experiences through observing clinical practice or completing patient simulations as part of the senior year coursework.

The B.S. degree is considered pre-professional preparation for entrance into a graduate program in speech-language pathology, audiology, or related fields. A clinical graduate degree is required in order to become a speech-language pathologist or an audiologist. The B.S. degree at UW is not designed to meet requirements to become a speech-language pathology assistant (SLP-A), additional practicum and some coursework at another institution would be required to become an SLP-A. For information on SLP-A technical programs please visit ASHA.org.

Student Learning Objectives

The BS degree provides students with a broad-based foundation in the sciences and humanities, fundamental knowledge of human communication, communication development, and the nature of communication disorders across the lifespan. Specific learning objectives can be found on the BS program website. https://www.uwyo.edu/comdis/student-objectives-handbooks-manuals.html.

Criminal Background Check

Eligibility for the B.S. degree is contingent upon passing a criminal background check. Usually during the senior year, each student will be required to obtain, pay for, and pass a criminal background check as part of enrollment in advanced courses. These background checks are required in order to participate in any aspect of the UW Speech & Hearing Clinic. The results of the background check may impact a student's ability to complete the required coursework and obtain the degree. Please see the College of Health Sciences website for the policy and procedures document.

National Student Speech Language Hearing Association

Students can join the UW chapter of the National Student Speech Language Hearing Association (NSSLHA) to become a part of a community of students interested in communication sciences and disorders. Objectives are to

promote and recognize scholastic achievement and to support clinical, research, and service endeavors.

Graduate

Speech-Language Pathology, M.S.

The Master's in Speech-Language Pathology (MS-SLP) is a full-time, two-year degree program consisting of ≈ 61 semester hours (SCH) of graduate study. The program is delivered in six consecutive semesters with full-time fall, spring and summer enrollment required. The program is classified as a residential program according to the criteria established by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA). This program incorporates a distance education component, involving one semester of online coursework and off-site clinical practicum, known as "community placement," completed during the fall semester of the second year.

Students in the MS-SLP program dedicate their "first year" (three semesters) to on-campus studies and clinical practicum at the University of Wyoming in Laramie. The "second year" (three semesters) consists of off-campus components, with students engaging in distance education coursework and clinical practicum during the fall. Full-time externships are undertaken in the spring and summer of the second year. While off-site clinical placements can be located anywhere in the United States, it's important to note that students are matched to clinical sites by the Speech Clinic Director, and existing agreements must be in place prior to students beginning their placements.

Accreditation

The Master's of Science (MS) education program in speech-language pathology {residential} at the University of Wyoming is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700.

Eligibility for Certification and Licensure

The Master of Science in Speech-Language Pathology is a professional degree program that leads to eligibility for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP), granted by the Council for Clinical Certification in Audiology and Speech-Language-Pathology (CFCC), which is a council serving the American Speech-

Language Hearing Association. A supervised Clinical Fellowship (CF) is required beyond the graduate degree for certification. Graduates are also eligible for the Wyoming license in speech-language pathology.

Typical Programs of Study

There are two programs of study for the MS SLP program. Plan A is the thesis option (64-credit hour program), and Plan B is the non-thesis option (61-credit hour program). The Plan A (thesis) option requires 34 credits of graduate academic work, 4 credits of SPPA 5960 Thesis Research, and 26 credits of graduate clinical practicum. The Plan B (non-thesis) option requires 34 credits of graduate academic work , 1 credit of research through SPPA 5961 Graduate Projects (Oral Comprehensive Exam), and 26 credits of graduate clinical practicum.

35-38 Hours of Graduate Academic Work and Research Usually Includes:

- SPPA 5020 - Phonological Assessment and Intervention Credits: 3
- SPPA 5140 - EBP and Evaluation Procedures in Communication Disorders Credits: 4
- SPPA 5280 - Early Language Intervention Credits: 3
- SPPA 5220 - Voice Disorders Credits: 3
- SPPA 5130 - Adult Neurogenic Disorders Credits: 3
- SPPA 5330 - School-Age Language Intervention Credits: 3
- SPPA 5120 - Stuttering Credits: 2
- SPPA 5110 - Craniofacial Disorders Credits: 2
- SPPA 5230 - Dysphagia Credits: 3
- SPPA 5100 - Motor Speech Disorders Credits: 3
- SPPA 5210 - Augmentative and Alternative Communication Credits: 2
- SPPA 5380 - Professional Practice Credits: 3
- Plan A students complete 4 credits of SPPA 5960 - Thesis Research Credits: 1-12
- Plan B students complete 1 credit of SPPA 5961 - Graduate Projects Credits: 1-4

26 Hours of Graduate Clinical Practicum Include:

- SPPA 5030 - Clinical Practicum Credits: 1-4
  (14 credits total required)
- SPPA 5270 - Educational Practicum Credits: 1-12
  (6 credits total required)
- SPPA 5290 - Medical Practicum Credits: 1-12

(6 credits total required)

Note:

Note: Specific degree requirements (course name and content), may change based on departmental decisions or requirement changes from accreditation and licensure bodies.

Additional Information

Admissions to the M.S. Degree Program in Speech-Language Pathology

Admission to the master's program in speech-language pathology is made on a competitive basis. We accept students to start in the fall of each year. For application, admission, and a description of the program, see the division website. Applicants must have completed a bachelor's degree or equivalent from a regionally accredited institution. All applicants should have at least a 3.000 cumulative GPA (scale of 4.000).

Additional required undergraduate coursework and discipline specific coursework

Admitted students must also have taken required coursework in the 4 Foundational Areas (Biological Sciences, Physical Sciences, Social/Behavioral Sciences, and Statistics). For the UW M.S. SLP program, admitted students must also have completed coursework in phonetics; speech & language development; anatomy and physiology of speech, hearing, and swallowing; audiology; neural basis of communication; and aural rehabilitation. Coursework in each of these areas is needed in order to meet the requirements of the Council for Clinical Certification in Audiology and Speech-Language-Pathology (CFCC) certification requirements and/or in order to graduate from the UW MS SLP program. Students missing any of these courses must complete requirements in order to be considered eligible for the M.S. in SLP degree.

Applications to our master's program must be made through an electronic, centralized application service: the Communication Sciences and Disorders Centralized Application Service for Clinical Education in Audiology and Speech Language Pathology (CSDCAS). Instructions and

application procedures are available at https://csdcas.liaisoncas.org/. Check the division web site in September for instructions.

Applicants will be notified of the division's decision on acceptance, alternate, or denial by mid-March. Applicants must respond to the offer by April 15. Alternates may be offered positions that become available after April 15.

International Students

For all International students, the university must determine whether financial resources are sufficient for study here. More information can be found on the UW International Students webpage.

English Language Proficiency

All applicants, regardless of citizenship, who do not possess a bachelor's degree from a post-secondary institution where English is the principal language must satisfy the English language proficiency requirement. The University of Wyoming and MS SLP program accept several English proficiency exams, including the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) exam, Duolingo, or Cambridge English score report. Score requirements for English proficiency exams are: TOEFL (540 or 76 minimum for iBT), IELTS (6.5 minimum), Duolingo (110), and Cambridge English B2 First, C1 Advanced or C2 Proficiency (176 minimum). The MS SLP program does not accept other options for satisfying the English proficiency admissions requirement. Official scores must be received by CSDCAS by January 15th.

Conditional Status

An applicant may be admitted conditionally if he or she does not meet the GPA requirements for full admission, and the Division determines that there are sufficient areas of strength for success in graduate school in comparison to other applicants. Conditions will be placed on admission such as graduate grade point average, performance criteria, or completion of certain courses.

Requirements Following Offer of Admission

Students who accept an offer of admission to the program must then provide numerous pieces of required

documentation for admission to UW and program and will also need to be responsive to emails from the Division and faculty throughout onboarding.

Criminal Background Check

Admission to the graduate program in speech-language pathology is contingent upon passing a criminal background check. Each student recommended for admission into the program will be required to obtain, pay, and pass a criminal background check. Additional background checks are routinely required by schools, hospitals, and other agencies that participate in the clinical education of our students. The results of the background checks may determine admission and/or ability to complete the UW M.S. SLP program. Please see the College of Health Sciences web site for the policy and procedures document.

Vaccination Requirements

Students' admission to our program is contingent on verification of vaccinations. Students must submit MMR immunization to UW's Student Health Services. Students also must submit COVID-19 vaccination status, because that information is required for Centers for Medicare & Medicaid Services as part of the UW Speech & Hearing Clinic's billing for patients to that agency. Students should also know that external clinical placements often require updated background checks and have their own processes and guidelines for vaccination documents and requirements, these sites are not bound to the University of Wyoming determinations.

Graduate Student Outcome Data

As of September 2023, 98.08% of MS SLP students completed the program "on time" over the last three years at time of calculation, 100% obtained employment, and the reported Praxis Exam pass rate was 100%.

Program Specific Graduate Assistantships

Financial assistance for graduate students is available each year through the Division with assistantships and other funding. Typically, graduate assistantships include one-half tuition support and a monthly stipend. These assistantships

require the student to spend 10 hours per week assisting faculty members in teaching and research. Graduate Assistantships and scholarship awards are competitive and based on past academic performance, evidence of professional promise, and letters of recommendation.

Differential Tuition

The graduate program in speech-language pathology has a differential tuition rate. See the Division website and/or fee book for details.

Certificate

American Sign Language Studies Certificate

Gain basic foundational skills in American Sign Language (ASL), understand sociocultural aspects of Deaf communities, teach other students the basics of ASL.

The American Sign Language Studies (ASL Studies) certificate provides a basic or beginning understanding of ASL and an introduction to Deaf sociocultural issues. The ASL Studies certificate may be helpful to anyone in the health and education fields in learning to communicate with and understand individuals who are Deaf. The certificate is a nominal recognition for students who wish to pursue more education in the fields of speech-language pathology, sign language interpreter, teacher of the deaf, preschool and K-12 education, audiology, nursing, counseling and other areas. The ASL Studies Certificate is not designed or adequate to meet educational requirements for any specific professional license or certification. The ASL Studies certificate from UW is a nominal recognition of basic or beginning ASL skills and Deaf culture. It does not prepare or entitle a student or recipient for any certification or licensure from any state or national associates, agencies or governmental bodies. For more information on the ASL Studies learning objectives, see the website: http://www.uwyo.edu/comdis/american-sign-language/index.html.

ASL Studies Certificate Requirements:

Students must have earned a grade of A for all three language courses (SPPA 2110, SPPA 2120, and SPPA 4130) in order to be eligible for the certificate. ASL coursework needs to have been completed within the last 5 years in order

to pursue the ASL Studies Certificate, exceptions can be granted if the student demonstrated adequate skills during a structured interview with a UW ASL instructor.

Course sequence for the certificate, 16 credits total:

- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- SPPA 4070 - Deaf Studies Credits: 3
- SPPA 4130 - Advanced ASL Credits: 4
- SPPA 4140 - Undergraduate Teaching Assistant Credits: 1

Division of Kinesiology and Health

Corbett Building, (307) 766-5284
FAX: (307) 766-4098
Web site: www.uwyo.edu/kandh
Director: Derek Smith

Professors:

TAMI BENHAM DEAL, B.S. Indiana University 1981; M.S. 1988; P.E.D. 1989; Professor of Kinesiology and Health 2012.

CHRISTINE M. PORTER, B.S. University of Maryland 1993; M.A. University of London 2002; Ph.D. Cornell University 2010; Professor of Kinesiology and Health 2021, 2016, 2010.

TRISTAN WALLHEAD, B.S. Loughborough University 1994; M.S. Leeds Metropolitan University 2000; Ph.D. Ohio State University 2004; Professor of Kinesiology and Health 2017, 2010, 2004.

QIN ZHU, B.S. Shanghai University of Sports 1999; M.Ed. 2002; Ph.D. Indiana University 2008; Professor of Kinesiology and Health 2020, 2014, 2008.

BOYI DAI, B.Ed. Beijing Sport University 2007; M.S. Iowa State University 2009; Ph.D. University of North Carolina at Chapel Hill 2012; Professor of Kinesiology and Health 2022, 2017, 2012.

BRYANT SMALLEY, B.S. Georgia Southern University 2002; M.S. Nova Southeastern University 2005; PhD Nova Southeastern University 2010.

JACOB WARREN, B.S. Georgia Southern University 2003; M.B.A. Georgia Southern University 2016, PhD Miami School of Medicine 2006

BRANT SCHUMAKER, B.S. University of California - Davis, 2001; D.V.M University of California - Davis, 2005; M.P.V.M. University of California - Davis, 2006; Ph.D. University of California - Davis, 2010; Professor of Kinesiology and Health 2022, 2016, 2010.

Associate Professors:

EVAN C. JOHNSON, B.A. The George Washington University 2004; M.A. University of Connecticut 2008; Ph.D. 2014; Associate Professor of Kinesiology and Health 2020, 2015.

DEREK SMITH, B.S. Colorado State University 1997; M.S. Wake Forest University 1999; Ph.D. University of Colorado 2003; Associate Professor of Kinesiology and Health 2009, 2003.

DANIELLE BRUNS, B.S. Linfield College-McMinnville 2008; M.S. Colorado State University 2010; Ph.D. 2013; Associate Professor of Kinesiology and Health 2018, 2022.

Assistant Professors:

BEN KERN, B.A. Western Colorado University 1999; M.A. Adams State University 2002; Ph.D. University of Illinois Urbana-Campaign 2017; Assistant Professor Kinesiology and Health 2020.

EMILY E. SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina at Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor of Kinesiology and Health 2018.

KELLY SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016; Ph.D. Louisiana State University 2018; Assistant Professor of Kinesiology and Health 2021.

LAUREN GILBERT, B.S. Marquette University, 2009; M.A. University of Florida, 2012; M.P.H. University of Florida, 2015; Ph.D. University of Florida, 2015; Assistant Professor of Kinesiology and Health, 2023.

Senior Lecturers:

MARCI SMITH, B.S. Colorado State University 1995; M.S. Wake Forest University 1998; Senior Lecturer in Kinesiology and Health 2015, 2003.

RACHEL WATSON, B.S. University of Denver 1998; M.S. University of Wyoming 2001; Senior Lecturer in Kinesiology and Health 2022.

Assistant Lecturers:

LACEY GAECHTER, B.A. University of Colorado 2004; M.S. University of Wyoming 2016; Assistant Lecturer in Kinesiology and Health 2021

SANDY GOHEEN-SMITH, B.S. Montana State University, Billings 1995; M.S. University of Wyoming 2015.

JACOB LAYER, B.A. Capital University 2015; M.S. University of Wyoming 2017

ALISA SICELOFF, VMD University of Pennsylvania 1997, Assistant Lecturer in Kinesiology and Health 2021

ANGELA SIMONTON, B.S. University of Wyoming 2014; M.S. Louisiana State University 2016.

Adjunct Faculty:

MIKE COTTERMAN, SHANE TWEETER, GRETCHEN SEWCZAK-CLAUDE

Professors Emeriti:

Paul Dunham, Ward Gates, Charles W. Huff, Donna Marburger, D. Paul Thomas, Mark Byra, Jayne Jenkins

The Division of Kinesiology and Health offers the Kinesiology and Health (K&H) major and the Physical Education Teacher Education (PHET) major. These two majors prepare students for a variety of clinical and nonclinical settings including teaching physical and health education in schools K-12. Students enrolled in these programs must meet academic standards as determined by the Division of Kinesiology and Health, College of Health Sciences, and the University of Wyoming.

The K&H major prepares students for admission to physical therapy school and occupational therapy school, as well as other health professions (e.g., physician, physician assistant, dentist, chiropractor, optometrist, etc.). Approximately 60%

of students majoring in K&H apply to one of these health professional schools once they have completed their B.S. degree in Kinesiology and Health. Other students majoring in training, fitness, recreation and leisure, and community and public health enter a very diverse job market.

The PHET program prepares students to teach physical and health education (PHET) in K-12 schools. The PHET major is a nationally recognized program for meeting the AAQEP/NASPE Initial Physical Education Teacher Education Accreditation Standards. This program offers individuals opportunity to combine certifications/endorsements in health education K-12, adapted physical education K-12, and coaching.

A graduate program leading to a Master of Science degree in Kinesiology and Health is offered by the Division.

Professional Program

Students who meet University of Wyoming entry requirements are admitted to the university in one of the two undergraduate majors that leads to the Bachelor of Science degree. The Division's undergraduate majors are open at the freshman level to all graduates of accredited high schools. Advanced placement for students with previous college credit is based on evaluation of transcripts of previous academic work.

Students in the Kinesiology & Health (K&H) program are ready to move forward in the junior year of the program when they complete the pre-requisite requirements to enroll in KIN 3021 and KIN 3022, Physiology of Exercise lecture and laboratory. To be eligible for the K&H Professional Program (junior/senior years), students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Advancement in the K&H Professional Program is complete once prerequisite criteria is met.

The entry course for admission to the Physical Education Teacher Education (PHET) program is KIN3012 - Teaching Laboratory I. To be eligible, for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000. Admission to the last two years of the PHET major is a competitive process and is only conducted for Fall semester. Application to the PHET majors is conducted only for fall. The application deadline is early April.

Undergraduate Majors

Kinesiology and Health Promotion, B.S.

Physical Education Teacher Education K-12, B.S.

Additional School Endorsments K-12

Adapted Physical Education K-12 Endorsement

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement / Permit

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

Graduate Study

Program Specific Admission Requirements

Admissions into the M.S. degree program are open to people who have obtained an undergraduate degree with a major program of study in exercise and sport science, health, kinesiology, physical education, or other areas in human movement sciences. Students who have undergraduate degrees in other areas may be required to complete additional courses, including Human Anatomy, Human System Physiology, Exercise Physiology, and other Kinesiology and Health classes recommended by the advisor. Individuals interested in applying are encouraged to contact the Graduate Program Coordinator, Dr. Boyi Dai (bdai@uwyo.edu), for more information.

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html): K&H supplemental application, transcripts, statement of intent, a sample of professional writing, and three letters of recommendation. Applications must be submitted no later than February 1 to be considered for Fall admission; Spring admissions are also considered on a case-by-case basis. More information about

the application can be found on the Division's website (http://www.uwyo.edu/kandh/future-graduate/graduate-application.html).

A minimum of a 3.0 undergraduate cumulative GPA is also necessary for admission. GRE scores are not required for admission or graduate assistantship consideration but can be submitted to enhance the application. International students who are not native English speakers are required to provide proof of English proficiency: http://www.uwyo.edu/admissions/international/requirements-graduate.html. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also meet additional English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Polices in the front section of the UW Catalog for more information.

Program Specific Graduate Assistantships

Graduate assistantships are available on a competitive basis. Teaching opportunities exist within the laboratory portions of the human anatomy and Kinesiology and Health courses and the teaching laboratory portions of the pedagogy practical courses. A graduate assistantship also involves some research opportunities with assigned graduate faculty advisors.

A stipend for a full-time graduate assistant is $12,825.00 per academic year. Tuition and fees are covered according to the percentage of assistantship allocated to the student.

Program Specific Degree Requirements Master's Programs

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Health Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S. *Plan A (thesis)*

Kinesiology and Health, M.S. *Plan B (paper and experiential learning option)*

Kinesiology and Health Distance Education, M.S. *Plan B (paper)*

Major

Kinesiology and Health Promotion, B.S.

The B.S. in Kinesiology and Health Promotion degree prepares students for careers in clinical exercise physiology, health and movement coaching, biomechanics, nutrition, basic science, and behavioral science. The program is also excellent for students seeking to enter the field of medicine.

Degree Requirements

This degree requires 120 credits, 48 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Courses required for major

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)

- CHEM 1000 - Introductory Chemistry Credits: 4 (Meets Physical and Natural World USP requirement)

  OR CHEM 1020 - General Chemistry I
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- KIN 1006 - Introduction to Kinesiology and Health Credits: 1 Not required if student has taken KIN 1101 First-Year Seminar
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR STAT 2070 Introductory Statistics for the Social Sciences
- PHYS 1050 - Concepts of Physics Credits: 4

  OR PHYS 1110 General Physics I
- ZOO 3115 - Human Systems Physiology Credits: 4
- HLED 3020 - Community and Public Health Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3

  A minimum cumulative GPA of 2.750 (preferred 3.000) is required before taking KIN 3021
- KIN 3022 - Lab Exp in Exercise Physiology Credits: 1 Taken concurrently with KIN 3021.
- KIN 3024 - Fundamentals of Health and Fitness Assessment Credits: 3
- KIN 3034 - Lifespan Motor Development Credits: 3

  OR KIN 4020 Motor Behavior
- KIN 3037 - Sport Psychology Credits: 3

  OR KIN 3038 Exercise Psychology
- KIN 3042 - Biomechanics of Human Movement Credits: 3

  Minimum of 6 hours total in:
- KIN 4015 - Internship Experience in Kinesiology Credits: 1-12

  OR
- HLED 4015 - Internship Experience in Health Credits: 1-12

  OR
- KIN 4016 - Research Experience in Kinesiology and Health Credits: 1-6

  OR
- HLED 4016 - Research Experience in Kinesiology and Health Credits: 3-6

Elective Courses

KIN/HLED Upper-Division Elective Coursework (15 credits)

15 credits of 3000-4000 level KIN/HLED elective coursework is required in addition to the required KIN & HLED courses listed above.

Consult with your advisor to see list of possible courses.

General Electives (25 credits)

Degree must include 120 credits, at least 48 of which must be upper-division credits.

KIN and HLED electives (i.e., non required courses) from above may be counted towards these 25 credits. KIN 2050 is recommended as one elective course.

Consult with your academic advisor and your pre-health advisor (if applicable). Pre-health students will need to take additional professional prerequisite courses as electives.

Additional Requirements

Students must complete 48 credit hours of upper division coursework (3000- or 4000-level courses) to meet the Division's minimum 48 credit hour requirement for the B.S. degree in Kinesiology and Health Promotion.

NOTE: Students should complete CPR & first aid certification and the certification should remain current throughout the program. Cards can be presented to the division registrar in Corbett 119 to be cleared of the requirement on the degree evaluation.

PRE-HEALTH ANNOUNCEMENT
This degree is great preparation for various careers in health care and allied health. If you are interested in becoming a strong applicant to graduate school for a career in these fields, please tell your primary advisor and connect with the Pre-Health Advising Office on campus as soon as possible: https://www.uwyo.edu/preprof/ or hsadvise@uwyo.edu
Your career of choice will determine which math and science courses you need to take in your first years, so talk to them early!

Physical Education Teacher Education K-12, B.S.

The Physical Education program is a nationally accredited program where students learn the content and teaching methods required to be certified to teach physical education K-12 in the public schools of Wyoming.

Degree Requirements

This degree requires a minimum of 120 credits, 48 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites for Admission

Prerequisites for admission into the Physical Education Teacher Education program:

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
  OR MATH 1405 Trigonometry
- CHEM 1000 - Introductory Chemistry Credits: 4 (Meets Physical and Natural World USP requirement)
  OR CHEM 1020 - General Chemistry
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- PHYS 1050 - Concepts of Physics Credits: 4
  OR PHYS 1110 General Physics I
- STAT 2050 - Fundamentals of Statistics Credits: 4
  OR STAT 2070 Introductory Statistics for the Social Sciences
- ZOO 3115 - Human Systems Physiology Credits: 4
- EDSE 3540 - Teaching Reading and Study Strategies in the Content Areas Credits: 2-4

- KIN 2001 - Movement Core 1: Sport & Game-based Approaches in Physical Education Credits: 3
- KIN 2002 - Movement Core 2: Lifetime Physical Education Credits: 3
- KIN 2003 - Movement Core 3: Adventure and Outdoor Education Credits: 3
- KIN 2004 - Movement Core 4: Fundamental Movement Education Credits: 3

Required Courses After Admission

Required courses after admission into the professional program.

Consult with your academic advisor for the order in which these courses must be taken, or if you have any questions.

- KIN 3011 - Teaching Methods in Physical Education K-12 Credits: 3
- KIN 3012 - Teaching Laboratory I Credits: 3 (Meets USP Communication II requirement)
- KIN 3015 - Teaching Laboratory II Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3022 - Lab Exp in Exercise Physiology Credits: 1
  (KIN 4029 can be taken in place of KIN 3021 and KIN 3022)
- KIN 3034 - Lifespan Motor Development Credits: 3
- KIN 3037 - Sport Psychology Credits: 3
  OR
- KIN 3038 Exercise Psychology
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- KIN 3060 - Understanding Skill Acquisition for Teaching Credits: 3
- KIN 4012 - Curriculum Development in Physical Education Credits: 3
- KIN 4013 - School Administration for the Health Sciences Credits: 2
- KIN 4017 - Teaching Laboratory III Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4080 - Assessment in Physical Education Credits: 3 (Meets USP Communication III requirement)
- KIN 4099 - Student Teaching in Physical Education Credits: 1-16 ***

Note(s):

*** Note: Students must be certified in first aid and CPR prior to enrollment in KIN 4099.

Additional Requirements

Students must complete 48 credit hours of upper-division coursework (3000- or 4000-level courses) to meet the Division's requirement for the B.S. in Physical Education Teacher Education. For any elective coursework, it is recommended that these courses are selected from the Affiliated Options on this page.

In order to advance into the professional program, students must be admitted through a competitive application process. The entry course for admission to the Physical Education Teacher Education (PHET) program is KIN 3012, Teaching Lab 1. To be eligible for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000.

NOTE: Students should complete CPR certification and the certification should remain current throughout the program. Cards can be presented to the division registrar in Corbett 119 to be cleared of the requirement on the degree evaluation.

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement/Permit

Students who wish to qualify for an athletic coaching permit to coach in Wyoming public schools must complete four courses. Note: Endorsements are for current teachers. Permits are for those who are not a licensed educator.

- CPR Certification
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- Foundations of Coaching KIN 4090 /KIN 5090 - 3 Credit Hours
- Students completing the Physical Education Teacher Education undergraduate degree are exempt from the KIN 4090/5090 requirement.
- Coaching in... Experience (completed at a community college or complete a coaching experience in a specific sport for one season or more with a letter written by your supervising coach to submit with your PTSB endorsement application form).

School Health Education K-12

In addition to completing a bachelor's degree in teaching at the secondary level from an approved university program, 25 credit hours are required to be endorsed to teach health education K-12 in the public schools of Wyoming.

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- CPR Certification
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3

- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

Adapted Physical Education K-12 Endorsement

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for K-12 endorsements in adapted physical education and/or health education by completing the following course requirements:

- EDEX 2484 - Introduction to Special Education Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4065 - Resources in Adapted Physical Education Credits: 2-3
- KIN 4075 - Assessment in Adapted Physical Education Credits: 3

Graduate

Kinesiology and Health Distance Education, M.S.

Master of Science Distance Education Program is designed for teachers, coaches, and other health professionals to fit into their busy schedules. Students can complete the Master of Science degree via synchronous or online modalities in a three, four, or five year period of time.

Plan B (Paper)

General Information

Teachers of health and physical education typically teach throughout the day and coach during the evenings and weekends. Therefore, traditional on campus Master's degree programs that require students to attend the University of Wyoming in Laramie are often simply impossible for teachers and other health professionals to fit into their busy schedule.

The Division of Kinesiology and Health offers the Master of Science degree in Kinesiology and Health as an off-campus, distance education program. All courses are delivered via synchronous or online modalities. The distance education program is designed such that you can complete the Master of Science degree in a three, four, or five year period of time.

This program involves a minimum of thirty (30) total credit hours of coursework and a culminating paper or case study presentation (experiential learning option) that is developed on a topic selected by the student in conjunction with her or his graduate faculty advisor. The process for composing the culminating paper or case study includes the development of a prospectus and final presentation of the paper or case study. Students who elect the experiential learning option will also be required to complete an internship or research experience. In addition to the nine (9) hours of general required courses, at least twelve (12) credit hours of other courses must be HLED and KIN courses.

General Required Courses (9 Credits)

[1] May substitute EDRE 5530

- KIN 5080 - Investigations in Kinesiology and Health Credits: 1-3 (3 credits required)
- KIN 5085 - Research Methods Credits: 3 [1]

- EDRE 5600 - Introduction to Quantitative Research Credits: 3

OR

- EDRE 5640 - Introduction to Qualitative Research Credits: 3

Kinesiology and Health Electives (15 Credits)

12 credits selected from the following KIN courses:

- KIN 5011 - Teacher Socialization in PE Credits: 3
- KIN 5014 - Teaching Tactics in Sport-Based Physical Education Credits: 3
- KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education Credits: 3
- KIN 5018 - Psychology of Teaching Physical Education Credits: 3
- KIN 5019 - Instructional Models for Physical Education Credits: 3
- KIN 5090 - Foundations of Coaching Credits: 3

Elective Courses (6 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Investigation in Kinesiology and Health: Maximum of 3 credit hours of Investigation in Kinesiology and Health (KIN 5080) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Thesis Research: No credit hours of Thesis Research (KIN 5960) may contribute to the Plan B Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097 /KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900 /KIN 5900) or KIN 5990 - Internship may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S.

Master of Science with Emphasis in Exercise and Sport Science is designed for students who want to pursue doctoral degrees and careers in exercise physiology, biomechanics,

exercise and sport psychology, motor learning and control, physical activity and lifespan development, etc.

Plan A (Thesis)

The Plan A option of the Master of Science degree in ESS is designed to prepare students for careers in one of the subdisciplines (e.g., exercise physiology, biomechanics, exercise and sport psychology, motor learning and control, physical activity and lifespan development, etc.).

All students complete a series of general required courses and a concentration of courses in their specific ESS subdiscipline. The ESS area of emphasis involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080; or EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Area of specialization will include three to five courses (9-15 hours) within the student's chosen ESS subdiscipline. Your advisor will identify courses to be taken specific to the selected area of emphasis.

Elective Courses (Minimum 6 Credits)

- Students are encouraged to complete at least one of their elective course selections from outside the Division of

Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.
Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.

- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (KIN 5900) or Internship (KIN 5990) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Health Emphasis, M.S.

Master of Science with Emphasis in Health is designed to prepare students for careers in public and community health settings.

Plan A (Thesis)

The Plan A option of the Master of Science degree in the area of HLED is designed to prepare students for careers in public and community health settings. All students complete a series of general required courses and a concentration of courses in the area of HLED.

The HLED area of emphasis involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least twelve (12) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070 or STAT 5080 ,EDRE 5640 or EDRE 5660. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Coursework will include three to five courses (9-15 hours). Your advisor will identify courses to be taken.

Elective Courses (Minimum 6 Credits)

- Students are encouraged to complete at least one of their elective course selections from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 21

credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, M.S.

Master of Science, Plan B, is designed for students who are seeking a terminal degree in Kinesiology and Health. This option is not designed for students seeking to pursue a doctoral degree at the completion of the Master of Science degree.

Plan B (Paper and Experiential Learning Option)

The Plan B option of the Master of Science degree in Kinesiology and Health is designed to prepare students who are seeking a terminal degree. This option is not designed for students seeking to pursue a doctoral degree at the completion of the Master of Science degree in Kinesiology and Health.

This program involves a minimum of thirty (30) total credit hours of coursework and a culminating paper or case study presentation (experiential learning option) that is developed on a topic selected by the student in conjunction with her or his graduate faculty advisor. The process for composing the culminating paper or case study includes the development of a prospectus and final presentation of the paper or case study. Students who elect the experiential learning option will also be required to complete an internship or research experience. In addition to the nine (9) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (9 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080 , EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5080 - Investigations in Kinesiology and Health Credits: 1-3 (3 credits required)
- KIN 5085 - Research Methods Credits: 3

- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Area of specialization will include three to five courses (9-15 hours) within the student's chosen ESS subdiscipline. Your advisor will identify courses to be taken specific to the selected area of emphasis.

Elective Courses (Minimum of 6 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Investigation in Kinesiology and Health: Maximum of 3 credit hours of Investigation in Kinesiology and Health (KIN 5080) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Thesis Research: No credit hours of Thesis Research (KIN 5960) may contribute to the Plan B Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097 /KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900 /KIN 5900) or KIN 5990 - Internship may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S.

Master of Science with Emphasis in Physical Education Teacher Education is designed for teachers who have

attained their licensure for teaching physical education and want to pursue an advanced degree to further develop their professional knowledge of teaching.

Plan A (Thesis)

The Plan A option of the Master of Science degree in the area of PETE is for teachers who have attained their licensure for teaching physical education and want to pursue an advanced degree to further develop their professional knowledge of teaching.

The PETE program of studies involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080; or EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3 or EDRE 5530 - Introduction To Research Credits: 3.
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 or EDRE 5550 - Action Research Credits: 3. [1]

Specialized Required Courses

(12 Credits Selected from The Following KIN Courses)

- KIN 5011 - Teacher Socialization in PE Credits: 3
- KIN 5014 - Teaching Tactics in Sport-Based Physical Education Credits: 3
- KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education Credits: 3
- KIN 5018 - Psychology of Teaching Physical Education Credits: 3
- KIN 5019 - Instructional Models for Physical Education Credits: 3
- KIN 5090 - Foundations of Coaching Credits: 3

Elective Courses (Minimum 8 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/HLED 5587) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of KIN 5900 - Practicum in College Teaching or KIN 5990 - Internship may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Certificate

Community and Public Health

This certificate covers foundational public health concepts, use of epidemiological data, designing evidence-based projects and community collaborations, and building public, political and financial support for public health.

Required Courses

Students must earn a B or better (an A or a B) in all four classes to earn the certificate.

- HLED 5021 - Creating Conditions for Community Health Credits: 3
- HLED 5022 - Unlocking the Potential of Public Health Credits: 3

- HLED 5023 - Using Epidemiology to Build Health Credits: 3
- HLED 5024 - Increasing Support for PH Credits: 3

  Students may either earn a 12-credit *University Graduate Certificate in Community & Public Health* or a 15-credit *University Graduate Certificate in Community & Public Health, Specializing in [Specialization Name]*.

Approved specialization courses include:

- HLED 5020 - Food, Health, and Justice Credits: 3
- HLED 5026 - Rural Community Health Credits: 3
- HLED 5027 - Emergency Prep and Response Credits: 3

  Additional specialization courses may be approved by Community & Public Health faculty.
- HLED 5810 - Environmental Health Credits: 3

  OR
- ENR 5810 - Environmental Health Credits: 3

Endorsement

Adapted Physical Education K-12 Endorsement

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for a K-12 endorsement in adapted physical education by completing the following course requirements:

Course Requirements

- EDEX 2484 - Introduction to Special Education Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4065 - Resources in Adapted Physical Education Credits: 2-3
- KIN 4075 - Assessment in Adapted Physical Education Credits: 3

Athletic Coaching Endorsement/Permit

Students who wish to qualify for an athletic coaching endorsement/permit to coach in Wyoming public schools must complete CPR certification and three courses. Note: Endorsements are for current teachers. Permits are for those who are not a licensed educator.

Course Requirements

- CPR Certification
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- Foundations of Coaching KIN 4090 /KIN 5090 Credits: 3
- Students completing the Physical Education Teacher Education undergraduate degree are exempt from the KIN 4090/5090 requirement.
- Coaching in... Experience (completed at a community college or complete a coaching experience in a specific sport for one season or more with a letter written by your supervising coach to submit with your PTSB endorsement application form).

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

In addition to completing a bachelor's degree in teaching at the secondary level from an approved university program, 21 credit hours are required to be endorsed to teach health education grades K-12 in the public schools of Wyoming.

Course Requirements

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- CPR Certification
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3

  OR
- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for a grades K-12 endorsement in health education by completing the following course requirements:

Course Requirements

- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

Division of Medical Education

Family Medicine Residency Programs

https://acalogcatalog.uwyo.edu/preview_entity.php?catoid=9&ent_oid=1779&returnto=964

Designated Institutional Officer: Beth Robitaille

(307) 234-6161

Casper: Brian Veauthier, Director

(307) 234-6161
Cheyenne: Evan Norby, Director
(307) 777-7911

Professors:

JAIME HORNECKER, B.S. Texas Tech University 1999; PharmD University of Wyoming 2003; Clinical Professor of Pharmacy Practice, School of Pharmacy, Family Medicine, Casper.

MICHAEL MILLER, B.A. Wheaton College 1992; D.O. Kirksville College of Osteopathic Medicine 2000, Clinical Professor of Family Medicine, Casper.

BETH ROBITAILLE, B.A. University of Notre Dame 1991; M.D. Creighton University School of Medicine 1995; Clinical Professor of Family Medicine, Casper.

BRIAN M. VEAUTHIER, B.S. University of Notre Dame 1996; M.D. Georgetown University School of Medicine 2001; Clinical Professor of Family Medicine, Casper.

Associate Professors:

ZACH DEISS, B.A. University of Wyoming 1979; M.D. Creighton University School of Medicine 1987; Clinical Associate Professor of Family Medicine, Casper.

RONALD L. MALM, B.S. University of Wyoming 1988; D.O. The University of Health Sciences, College of Osteopathic Medicine 1992; Clinical Associate Professor of Family Medicine, Cheyenne.

LEENA MYRAN, B.S. University of Wyoming 2012; PharmD. University of Wyoming School of Pharmacy 2012; Clinical Associate Professor of Pharmacy Practice, Family Medicine, Casper.

SHARON KARNES, B.S. University of Washington School of Medicine 1997; M.D. University of Washington School of Medicine 2001; Clinical Associate Professor of Family Medicine, Casper.

CAROLINE KIRSCH, B.S. University of Wyoming 1993, 2002; M.S. University of Wyoming 1996; D.O. New York College of Osteopathic Medicine 2007; Clinical Associate Professor of Family Medicine, Casper.

CYNTHIA WORKS, B.A. Creighton University 1981; M.D. University of Arizona College of Medicine 1985; Clinical Associate Professor of Family Medicine, Casper

Assistant Professors:

RITA BARRY DO, Assistant Professor at Cheyenne program - University of Oregon Bachelors in Biochemistry 2012, Oregon Health and Science University Doctorate of Medicine 2017

JODY COUSINS MD, Assistant Professor at Cheyenne program - University of Wyoming Bachelors of Science in Psychology 1999, University of Washington School of Medicine 2006 Doctorate of Medicine

JAMES EGGERT, MD, Assistant Professor at Cheyenne program - University of California 2010 Bachelors in Bioengineering : Premedical, San Juan Bautista School of Medicine 2019 Doctorate of Medicine

BLAINE LEVY, B.S. Midwestern University 2008; D.O. Arizona College of Osteopathic Medicine of Midwestern University 2012; Clinical Assistant Professor of Family Medicine, Casper.

EVAN NORBY, B.S. Brigham Young University 2007; D.O. Arizona College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Cheyenne.

LAVINIA SALAMA PhD, Assistant Professor at Cheyenne program - -Doctor of pharmacy (PharmD) with concentration in nephrology, Albany College of Pharmacy and Health Sciences in Albany, NY- May 2020, -PGY1: general residency at Southeast Hospital in Cape Girardeau, MO - June 2021, PGY2 in Ambulatory Care at Albany College of Pharmacy and Health Sciences - July 2022

TABITHA THRASHER, B.S. University of Central Missouri 2001; D.O. Rocky Vista College of Osteopathic Medicine 2012; Clinical Assistant Professor of Family Medicine, Casper.

Lecturers

LAURA CAPASSO, B.A. University of Wyoming 2012; M.S. University of Wyoming 2014; Ph.D. University of Northern Colorado, 2019; Assistant Lecturer, Family Medicine, Cheyenne.

BURL MAURER, B.A. Kennesaw College 1984; M.S.W. University of GA School of Social Work 1988; Associate Lecturer, Family Medicine, Casper.

PAMELA OILER, B.S.W. University of Wyoming 1999; M.S.W. Colorado State University 2005; Associate Lecturer, Family Medicine, Cheyenne.

To address the need for broadly trained primary care physicians in Wyoming, the Wyoming Legislature established two residency programs in the specialty of family medicine. These two accredited, university-administered, community-hospital based family medicine residency programs are located in Casper and Cheyenne. They enroll up to 42 residents (14 in each of three years). The two

family medicine centers maintain a 1:4 faculty to resident ratio. The program at Casper began in 1976 and is affiliated with Wyoming Medical Center. The program utilized the services and facilities provided by the Educational Health Center of Wyoming. The Rural Training Track Program is a partnership with the Casper core program and Hot Springs County Memorial Hospital that provides a unique, hands-on experience for rural practice by training in the rural community of Thermopolis, Wyoming. It enrolls up to 3 residents (1 in each of three years). Casper's Geriatric fellowship is Wyoming's only post-graduate medical education training program. The fellowship provides training specialized in geriatrics to produce Board-certified geriatricians to care for the state's aging population. The Cheyenne program became active in 1980 and is affiliated with Cheyenne Regional Medical Center. The program utilizes the services and facilities provided by the Educational Health Center of Wyoming and has a close working relationship with the Veterans Administration Hospital. Both centers include spacious examining rooms; treatment and casting rooms; x-ray facilities; offices for faculty, residents and staff; complete laboratories; multiphasic research areas; conference rooms; business offices and roomy waiting rooms with play areas in the clinical component. In the educational component, both include large auditoriums; learning resource centers and administrative offices. Particular emphasis in both centers is placed on preparing physicians for rural practice and other facets of medical practice that are unique to Wyoming.

WWAMI Medical Education Program

Laramie: TBD, Director
(307) 766-2496 (Front Office)
John Willford, Assistant Director
(307) 766-4249
Web site: www.uwyo.edu/wwami

Associate Professors

CAMERON WALKER, B.S. Iowa State University of Science and Technology 1996; M.A. Iowa State University of Science and Technology 2000; Ph.D. University of Oregon 2006; Clinical Associate Professor, WWAMI.

JOHN WILLFORD, B.S. University of Wyoming 2005; Ph.D. University of Wyoming 2008; Clinical Associate Professor, WWAMI.

Assistant Professors

DANIELLE BRUNS, B.S. Linfield College 2008; M.S. Colorado State University 2010; Ph.D. Colorado State University 2013; Assistant Professor Kinesiology & Health, WWAMI.

ESTHER GILMAN-KEHRER, B.S. University of Wyoming 1986; M.S. University of Wyoming 1998; Post-Master's F.N.P. University of Colorado 2000; Post-Master's Nurse Midwifery 2002; D.N.P. University of Colorado 2012; Clinical Assistant Professor, Fay W. Whitney School of Nursing, WWAMI.

DANA GOVAERTS, B.S. University of Nebraska 1988; M.D. University of Nebraska Medical Center 1992; Clinical Assistant Professor, WWAMI.

DANIEL RADOSEVICH, B.S. University of Wyoming 1985; M.D. University of Colorado Medical School 1991; Clinical Assistant Professor, WWAMI.

EMILY SCHMITT, B.S. Elon University 2007; M.S. University of North Carolina-Charlotte 2009; Ph.D. Texas A&M University 2015; Assistant Professor Kinesiology & Health, WWAMI.

The University of Wyoming medical contract program enhances medical education opportunities for Wyoming residents. In March 1996, the University of Wyoming became a partner in the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) Program. The WWAMI program is Wyoming's medical school and the program delivers the first two years of the University of Washington School of Medicine (UWSOM) medical school curriculum on the University of Wyoming campus. The remaining two years of the curriculum are spent in clinical rotations throughout the five-state WWAMI region. Twenty Wyoming residents are accepted into the WWAMI program each year and receive their M.D. degree from the UWSOM. For further information, contact the Wyoming WWAMI Office, College of Health Sciences, Laramie, Wyoming 82071, (307) 766-2496.

Wyoming WWAMI Medical Education Program

FIRST YEAR: Summer Hrs.

HM 6710.....9

FIRST YEAR: Fall Hrs.

HM 6603.....2

HM 6720.....7

HM 6730.....7

Total Hrs. 16

FIRST YEAR: Spring Hrs.

HM 6602.....2

HM 6603.....2

HM 6740.....5

HM 6750.....5

HM 6755.....1

HM 6760.....6

HM 6770.....5

Total Hrs. 26

SECOND YEAR: Fall Hrs.

HM 6602.....2

HM 6603.....2

HM 6775.....3

HM 6800.....7

HM 6900.....5

Total Hrs. 19

Graduate

WWAMI Medical Education

The WWAMI Med Ed Program is Wyoming's medical school. Through the University of Washington School of Medicine, foundation phase is in Laramie at UW, clinical phase is in the WWAMI region.

Degree Requirements

Degree requires [70] foundation phase credits, all upper-division credits.

Required Courses

- HM 6710 - Fund. Medical Sci. & Research Credits: 9
- HM 6603 - Clinical Studies Credits: 2 (6 credits required)
- HM 6720 - Infection & Immunity Credits: 7
- HM 6730 - Cancer, Hormones & Blood1 Credits: 7
- HM 6740 - Muscles, Joints, Bones, & Skin Credits: 5
- HM 6602 - Introductory Primary and Continuity Care Clerkship Credits: 2 (4 credits required)
- HM 6750 - Cardiovascular System Credits: 5
- HM 6755 - Medicine, Health, & Society 1 Credits: 1
- HM 6760 - Respiration and Regulation Credits: 6
- HM 6770 - Head, Neck, & Gut Credits: 5
- HM 6775 - Medicine, Health, & Society 2 Credits: 3
- HM 6800 - Mind, Brain, & Behavior Credits: 7
- HM 6900 - Life Cycles and Reproduction Credits: 5

Total Hrs. 70

Fay W. Whitney School of Nursing

351A Health Sciences Center,
(307) 766-4312
FAX: (307) 766-4294
Web site: www.uwyo.edu/Nursing
Dean: Sherrill J. Smith
Associate Dean: Karen L. Gorton

Professors:

ANN MARIE HART, B.S.N. Medical College of Virginia 1991; M.S. University of Wyoming 1996; Ph.D. University of Colorado Health Sciences Center Denver 2003; Professor of Nursing 2015.

SHERRILL J. SMITH, B.S.N. University of Wisconsin-Eau Claire 1985; M.S. Wright State University 1997; Ph.D. University of Northern Colorado 2008; Professor of Nursing 2019; Dean of Nursing 2019.

JENIFER THOMAS, B.S. Colorado State University 1994; M.S. Avila University 2000; M.S. Colorado State Unviersity2007; Ph.D. 2008; Professor of Nursing 2023.

Associate Professors:

REBECCA CARRON, B.S.N. Texas Christian University 1976; B.A. University of Wyoming, 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

KAREN GORTON, B.S. Wheaton College, 1986; M.S. Indiana University, 1988; B.S.N. Carroll College/Columbia College of Nursing 1988; M.S.N. University of Wisconsin - Milwaukee 2003; Ph.D. University of Northern Colorado 2010; Associate Professor of Nursing 2023.

JANET WILLHAUS, B.S.N. University of Kansas 1985; M.S. Fort Hays State University 2008: Ph.D. Washington State University 2013; Associate Professor of Nursing 2020.

Assistant Professors:

JENNIFER M. STEPHENS, B.S.N. Texas Christian University 1976; B.A. University of Wyoming 1997; M.S. 2006; Ph.D. University of Colorado 2014; Associate Professor of Nursing 2020.

Clinical Associate Professors:

ESTHER GILMAN-KEHRER, B.S.N. University of Wyoming 1986; M.S. 1998; D.N.P. University of Colorado 2012; Clinical Associate Professor 2021.

NANCY MCGEE, B.S.N. University of Wyoming 2005; M.S. 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

J'LAINE PROCTOR, B.S.N. University of Wyoming 2000; M.S. 2003; Certificate-PMHNP 2007; D.N.P. University of Northern Colorado 2014; Clinical Associate Professor 2020.

Clinical Assistant Professors:

NANCY "NIKI" EISENMANN, B.S.N. University of Nebraska Medical Center 2002; M.S. Nebraska Wesleyan University 2008; Ph.D. University of Missouri-Kansas City 2020; Clinical Assistant Professor 2020.

Senior Lecturers:

Associate Lecturers:

Carrie Barr, Paula Kihn, Candace Stidolph, Christina Warren

Assistant Lecturers:

Megan Beach, Shirley Boggs, Ashley Lair, Jennifer Langevin, Cheryl Rodgers, Shannon Schneider, Amy Turpin, Sarah Whitman

Adjunct and Part-time Faculty:

Amy Aldrich, Nicole Alexander, Nikki Armstrong, Jennifer Barbee-Crim, Timothy Barnes, Paula Belknap, Jennifer Browne, Colleen Butler, Britni Camino, Carol Campbell, Erin Clikeman, Robin Cole, Mary Cox, Robyn Curtis-Rice, Wesley Davis, Alison Doherty, Michelle Dowling, Sharon Farra, Jennifer Favilla, James Fleenor, Shelby Frost, Deborah Gaspar, Brian Gee, Mary Kay Goetter, Julian Good, Grace Gosar, Pete Gosar, Sheriedan Grannan, Nancy Halsey, Lori Hart, Jennifer Helmer, Jesse Henry, Holly Hink, Michelle Hipsak, Jennifer Hluwood, Barbara James, Dawn Jensen, Amy Johnson, Jayne Josephsen, Sunny Kaste, Melanie Kawulok, Katie Keller, Carol Kobulnicky, Cheryl Koski, Cory Lamblin, Kara Laughlin, Anthony Leonard, Sue Lowe, Cristina Mcafee, Lauren Menter, Katherine Miller, Jesse Morse-Brady, May Nara, Marcia Newell, Kristy Nielson, Brian O'Neill, Jennifer Oiler, Alicia Palazzolo, Sarah Penn, Whitney Peterson, Collin Prince, Chelse Raymer, Rasha Riad, Vickie Richards, Amy Robohm, Marlene Shaw, Elizabeth DePrince Smith, Shawn Snyder, Sherra St.Clair, Nichole Taylor, Veronica Taylor, Cassie Terfehr, Joslyn Thompson, Kate Thompson, Teresa Thompson, Weldonna

Toth, Jennifer Tryder, Candace Tull, Jessica Warren, Cynthia Weber, Leah White, Linda Williams, Wendy Wood Neeson, Wendy Wright

Emeriti:

Pamela D. Larsen, Mary E. Burman, Beverly McDermott, Holly Miller, Mary Anne Purtzer, Kimberly Raksa-Miller, Susan H. Steiner, Beverly Taheri-Kennedy, Fay W. Whitney, Norma Wilkerson

The Fay W. Whitney School of Nursing (FWWSON) has well established B.S.N, M.S., and D.N.P. programs based upon national nursing education standards.

Mission

The FWWSON educates, conducts research and provides service and practice to improve, protect and promote health.

Accreditation and Membership

The baccalaureate and graduate programs are accredited by the Commission on Collegiate Nursing Education (CCNE).

The baccalaureate program (Basic BSN, BRAND) is approved by the Wyoming State Board of Nursing (WSBN). Graduates of the Basic BSN and BRAND options are qualified to apply to take national licensing examination: NCLEX. Graduates of the DNP Program are eligible to take the national certification exams as a nurse practitioner.

Technical Standards Education and Practice

All nursing students must be able to perform the essential functions of a nurse, including observation/communication, physical/motor, intellectual, and behavioral/social. Please refer to the "Technical Standards for Education and Practice and Reasonable Accomodations Policy", including information on reasonable accommodations, on the school's website: http://www.uwyo.edu/nursing/programs/technical-standards-for-admission.html.

Background Check Requirement

Students enrolled in clinical training programs within the College of Health Sciences are placed in educational and clinical settings where highly vulnerable clients such as minor children, individuals with disabilities, and/or the elderly, are routinely served. These clinical/ practice training sites (including schools, hospitals, pharmacies, and other university sites) routinely require criminal background checks for all students who engage in clinical activities. Therefore, background checks shall be required on all applicants to programs in the College of Health Sciences prior to admission into their prospective program.

Students applying for admission to any nursing program option will be notified by the FWWSON at the time of any admission offer the process for completing the required background check. Previous background checks (e.g. CNA Certification, LPN or RN Licensure) are not acceptable to fulfill this expectation. The results of the background check may determine final admittance to the program.

Students may also be required to update the criminal background check. Each clinical training site will be informed that students have passed a background check prior to placement at that site; some sites may require a more current background check. Clinical agencies may bar a student access to their facility for clinical experiences based on the results of the background check. If faculty and staff are not able to place the student in an alternative setting, the student will not be able to complete the program. In addition, students seeking readmission into the program are required to complete a new background check. Students are responsible for the costs associated with the admission background check and any other background checks that may be required.

Drug Screening Requirement

An acceptable drug screen is required at admission for all students entering clinical programs in the School of Nursing as drug screening is required by most clinical training sites. Students will be notified by the FWWSON should this be an expectation of them for a specific placement after admission. Students may incur charges for this screening and will be notified of such at that time. Drug and/or alcohol testing for any student can be requested by the FWWSON.

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Health Insurance Requirement

Health insurance coverage is a requirement of the Fay W. Whitney School of Nursing for participation in any clinical rotation. It is the responsibility of the student to obtain and maintain coverage for **ALL** clinical rotations. Students will be notified by the FWWSON for the timing for completion of the FWWSON Student Verification of Health Insurance Form.

Undergraduate Study

Bachelor of Science in Nursing (BSN) Program

The Fay W. Whitney School of Nursing provides a curriculum based on the solid foundation of a general studies program. University students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. The primary responsibility of faculty is to empower students to become self-directed learners. Active learning is a teaching/learning partnership.

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgement, Patient Centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domains 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)
- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgement, Safety)
- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient Centeredness & Health Promotion)
- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)
- Implement effective partnerships, policy, and advocacy across divers populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)
- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, & Health Promotion)

*Domains: AACN Essentials Domains

** CCC: ReNeW Core Curricular Concepts

Bachelor of Science in Nursing (BSN) Program Options

The Fay W. Whitney School of Nursing offers a baccalaureate program with three options to obtain the BSN degree:

- Basic BSN - a four-year, on-campus BSN option for the student who wishes to become a registered nurse at the baccalaureate level.
- BRAND (Bachelors Reach for Accelerated Nursing Degree) - an accelerated BSN outreach option for the student who has already achieved a previous non-nursing baccalaureate degree and who wishes to become a registered nurse at the baccalaureate level.
- BSN Completion - two online BSN options (ReNEW and RN-BSN):
    - ReNEW (Revolutionizing Nursing Education in Wyoming) - an online BSN option for the student or graduate of a Wyoming community college ReNEW nursing program who wishes to become a baccalaureate-prepared nurse.
    - RN-BSN - an online BSN option for the graduate of a non-ReNEW associate degree or diploma nursing program who wishes to become a baccalaureate-prepared nurse.

Please refer to the appropriate BSN program option section that follows below.

Graduate Study

The Fay W. Whitney School of Nursing offers two graduate programs leading to: 1) a Master of Science (M.S.) degree and 2) a Doctor of Nursing Practice (D.N.P.) degree.

Master of Science (MS) Program

The MS program of study is for nurses who desire to become nurse educators or nurse leaders in any academic or health-related setting. The program mission is to prepare transformational learners and leaders to advance nursing education and practice, thus, addressing the complexities in the 21st century healthcare system. Core curricular concepts woven through the curriculum include transformation, communication, interconnected global perspective, outcomes orientation, and rural population health.

Expected Student Learning Outcomes

MS graduates are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings.
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate

concepts from nursing and other sciences to address population health.

- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation:
  Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Master of Science (MS) Program Concentrations

The Fay W. Whitney School of Nursing offers a masters program with two concentrations to obtain the MS degree:

- Nurse Educator - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse educators.
- Nurse Leader - a two and a half-year, online MS concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) who desire to become nurse leaders.

Please refer to the MS program section that follows below.

Doctor of Nursing Practice (DNP) Program

The Doctor of Nursing Practice (DNP) degree is the new standard for advanced practice nursing education. The DNP program is open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by an approved nursing education accrediting body.

Expected Student Learning Outcomes

DNP graduates will:

- engage in evidence-based practice to optimize health outcomes;
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation:
  Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based

practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier:
  Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service:
  Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global Healthcare System Perspective:
  An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship:
  Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Doctor of Nursing Practice (DNP) Program Concentrations

The Fay W. Whitney School of Nursing offers a doctoral program with two concentrations to obtain the DNP degree:

- Family Nurse Practitioner (FMY) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural primary care.

- Psychiatric Mental Health Nurse Practitioner (PSH) - a three-year, DNP concentration for the registered nurse with a Bachelor of Science in Nursing (BSN) that prepares students for careers in rural psychiatric mental health care.

Please refer to the appropriate DNP program concentration section that follows below.

Major

Nursing, B.S.N., Basic BSN Option

"Basic BSN" is an on-campus BSN option for students who want to become a registered nurse and earn the Bachelor of Science in Nursing degree. Learning facilities include state-of-the-art classrooms and Clinical Simulation Center.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Pre-Clinical Component

- ENGL 1010 - College Composition and Rhetoric Credits: 3
- MATH 1400 - College Algebra Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

- ZOO 3115 - Human Systems Physiology Credits: 4

Clinical Component

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 2340 - Developmental Influences on Health Credits: 3
- NURS 3445 - Fundamentals and Health Assessment in Professional Nursing Practice Credits: 4
- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4
- NURS 3490 - Health Promotion in Professional Nursing Practice Credits: 3

- NURS 3690 - Professional Nursing Acute/Chronic Illness Credits: 3
- NURS 3695 - Professional Nursing Acute/Chronic Illness Practicum Credits: 4
- NURS 4125 - Evidence-Based Nursing Credits: 3
- NURS 3890 - Professional Nursing Care in Complex Illness Credits: 3
- NURS 3891 - Professional Nursing Care of Older Adults Credits: 3
- NURS 3892 - Professional Nursing Care in Mental Health and Illness Credits: 3
- NURS 3895 - Professional Nursing Care in Complex Illness Practicum Credits: 4
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3
- NURS 4690 - Professional Nursing Care of Populations Credits: 4
- NURS 4691 - Professional Nursing Care of Children and Families Credits: 4
- NURS 4695 - Professional Nursing Care of Populations Practicum Credits: 4
- NURS 4865 - Professional Nursing Leadership Credits: 3
- NURS 4895 - Professional Nursing Capstone Practicum Credits: 9-12

    With approval from FWWSON, ROTC students taking ARMY 3050 may apply 3 credits to this requirement and take NURS 4895 for 9 credits.

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Basic BSN has two different admission entries: 1) Freshman Admission to the Nursing major and 2) Non-Freshman Admission to the Nursing major. Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Freshman Admission or Non-Freshman Admission under Admission to Basic BSN)*.

**Applicants meeting minimum requirements are not guaranteed admission.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for Basic

BSN. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Basic BSN Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

The minimum requirement to graduate with a BSN is 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450] and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Nursing courses are offered fall and spring semesters of the university academic calendar. Students are required to have transportation to all clinical sites. A number of clinical sites are located in Cheyenne. The capstone practicum experience during spring of the senior year requires students to live in locations away from campus.

Program of Study

A detailed, semester sequenced Basic BSN Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Basic BSN Program of Study)*. All required courses identified under Pre-Clinical Component and Clinical Component must be passed with a C or better (or S) except for CHEM 1000, which requires a B or better. .

Applicable for: Freshman/Non-Freshman Admission to the Nursing Major

Nursing, B.S.N., BRAND Option

"Bachelors Reach for Accelerated Nursing Degree": an accelerated Bachelor of Science (BSN) option for students with a previous non-nursing baccalaureate degree who desire to become a registered nurse. This

option is a 'summer to summer' format with a full-time schedule of courses.

Degree Requirements

This degree requires 55-58 credits.

Prerequisite Courses

- PSYC 1000 - General Psychology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

- CHEM 1000 - Introductory Chemistry Credits: 4

*Must earn a grade of B or better if taking CHEM 1000.

OR

- CHEM 1020 - General Chemistry I Credits: 4

- LIFE 1010 - General Biology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

Required Graduate Course

US & WY Constitutions (V) course.

- POLS 1000 - American and Wyoming Government Credits: 3

Nursing Courses

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- NURS 3745 - Nursing Fundamentals and Health Assessment Credits: 4
- NURS 3790 - Health Promotion of Individuals, Families, and Populations Credits: 3
- NURS 3770 - Nursing Care in Acute and Chronic Illness Credits: 6
- NURS 3771 - Nursing Care in Acute, Chronic, and Complex Illness Practicum Credits: 5
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3
- NURS 4690 - Professional Nursing Care of Populations Credits: 4
- NURS 4691 - Professional Nursing Care of Children and Families Credits: 4
- NURS 4735 - Vulnerable Populations and Mental Health Credits: 3
- NURS 4771 - Nursing Care of Families, Vulnerable Populations, and Behavioral Health Practicum Credits: 4
- NURS 4775 - Nursing Senior Capstone Credits: 10
- NURS 4865 - Professional Nursing Leadership Credits: 3

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who meet university requirements are admitted to the university in the pre-nursing component of BRAND *(declared PNBR major)*. The number of students admitted to BRAND is limited, and admission is a competitive process.

**Applicants meeting minimum requirements are not guaranteed admission.

Criteria for admission to BRAND as well as application instructions and deadlines can be found on the nursing website, www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, Admission Criteria/Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BRAND. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, BRAND Student Handbook - section 6, Scholastic Requirements)*.

Curriculum

The minimum requirement for the second bachelor's (SB) degree candidate to graduate with a BSN is 50 semester hours of credit. This curriculum option totals 55 credit hours.

The minimum requirement for an SB degree is 30 additional semester hours earned from UW, 12 of which must be in upper division level courses. If prior baccalaureate degree was earned through UW, the 30 credit minimum is in addition to the credits earned for previous degree. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450] and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability. PHCY 3450 and PHCY 4470 must be completed within three years **before** the May start date.

Program of Study

A detailed, semester sequenced BRAND Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, BRAND Program of Study)*. All required courses identified under Prerequisite Courses and Nursing Courses must be passed with a C or better (or S).

Nursing, B.S.N., BSN Completion - ReNEW Option

The BSN Completion - ReNEW (Revolutionizing Nursing Education in Wyoming) option is Wyoming's shared BSN nursing curriculum. Entry into the ReNEW option begins at a participating Wyoming community college ADN nursing program.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Related Coursework

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

*Must earn a grade of B or better if taking CHEM 1000.

- CHEM 1020 - General Chemistry I Credits: 4
- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4
- Humanities Elective course Credits: 3 *(not PSYC 1000)*

Nursing Courses

Entry Point: First three courses in the program of study.

- NURS 3006 - BSN Completion Foundations Credits: 2
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3 (COM3)
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3

Enrollment open after NURS 3006, 4055, 4665 completion.

- NURS 4630 - Public/Community Health Credits: 2
- NURS 4635 - Community as Client Credits: 2
- NURS 4640 - Health Equity Credits: 2
- NURS 4645 - Population Health Credits: 2
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4840 - Healthcare Systems and Policy Credits: 2

Enrollment after completion of ADN.

- NURS 4835 - Leading Nursing Practice Credits: 2
- NURS 4845 - Innovation in Nursing Practice Credits: 2
- NURS 4855 - Contemporary Nursing Practice Credits: 2

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who apply to UW and meet university requirements are admitted to the university in the pre-nursing component of ReNEW BSN *(declared PNRN)*. Criteria for UW admission can be found on the nursing website: www.uwyo.edu/nursing *(click*

on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW).

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BSN Completion. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW or RN-BSN, BSN Completion Student Handbook - section 6, Scholastic Requirements).*

Curriculum

The minimum UW requirement to graduate with a BSN in 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450], and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Program of Study

A detailed Program of Study for ReNEW ADN Entry can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW, Program of Study for ReNEW ADN Entry)*. All required courses identified under Related Coursework and Nursing Courses must be passed with a C or better (or S).

Nursing, B.S.N., BSN Completion - RN-BSN Option

The BSN Completion - RN-BSN option is for non-ReNEW associate degree or diploma-educated registered nurses. This option is delivered nationwide with no on-campus time required.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Related Coursework

- MATH 1400 - College Algebra Credits: 3

  OR
- MATH 1405 - Trigonometry Credits: 3

  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

*Must earn a grade of B or better if taking CHEM 1000.

- CHEM 1020 - General Chemistry I Credits: 4
- An approved Human Anatomy course Credits: 4
- An approved Human Physiology course Credits: 4
- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

Nursing Courses

Entry Point: First three courses in the program of study.

- NURS 3006 - BSN Completion Foundations Credits: 2
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3 (COM3)
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3

Enrollment open after NURS 3006, 4055, & 4665 completion.

- NURS 4630 - Public/Community Health Credits: 2
- NURS 4635 - Community as Client Credits: 2
- NURS 4640 - Health Equity Credits: 2
- NURS 4645 - Population Health Credits: 2
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4835 - Leading Nursing Practice Credits: 2
- NURS 4840 - Healthcare Systems and Policy Credits: 2

- NURS 4845 - Innovation in Nursing Practice Credits: 2

  Exit Point: Must be taken in last semester.
- NURS 4855 - Contemporary Nursing Practice Credits: 2

Escrow Courses

(Credits are automatically posted to the student's UW transcript during the semester of NURS 4855 enrollment. These credits represent credit for nursing content learned in the associate degree or diploma in nursing program.)

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- NURS 3890 - Professional Nursing Care in Complex Illness Credits: 3
- NURS 3895 - Professional Nursing Care in Complex Illness Practicum Credits: 4

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who apply to UW and meet university requirements are admitted to the university in the pre-nursing component of RN-BSN *(declared PNBS)*. Criteria for admission as well as application instructions can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, RN-BSN, Admission Criteria/ Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BSN Completion. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW or RN-BSN, BSN Completion Student Handbook - section 6, Scholastic Requirements).*

Curriculum

The minimum UW requirement to graduate with a BSN in 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450], and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Program of Study

A detailed Program of Study for RN-BSN Entry can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, RN-BSN, Program of Study for RN-BSN Entry)*. All required courses identified under Related Coursework and Nursing Courses must be passed with a C or better (or S).

Graduate

Nursing, D.N.P., Family Nurse Practitioner Concentration

The Family Nurse Practitioner (FMY) concentration prepares advanced practice nurses to provide primary health care to diverse individuals and their families in a variety of outpatient settings, especially rural settings. This degree requires 75 graduate credits.

DNP Core Courses

- NURS 5140 - Pharmacotherapy for Primary Care Credits: 4
- NURS 5165 - DNP: Adv Pathophysiology Credits: 3
- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3

- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness Credits: 3
- NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners Credits: 3
- NURS 5830 - Health Behavior Change II: Behavioral Skills for Secondary and Tertiary Prevention Credits: 3
- NURS 5865 - DNP Seminar Credits: 1
- NURS 5866 - DNP Seminar II Credits: 1
- NURS 5891 - Doctor of Nursing Project I Credits: 1
- NURS 5892 - Doctor of Nursing Project II Credits: 3
- NURS 5893 - Doctor of Nursing Project III Credits: 1
- NURS 5894 - Doctor of Nursing Project IV Credits: 2

Family Nurse Practitioner Specialty Courses

- NURS 5825 - Advanced Health Assessment and Clinical Decision-Making for Family Nurse Practitioners Credits: 4
- NURS 5827 - Skills for Family NP Credits: 3
- NURS 5871 - Wellness for Adults in Primary Care Credits: 3
- NURS 5872 - Practicum for Wellness in Primary Care Credits: 3
- NURS 5873 - Primary Care for Children, Adolescents, and Families Credits: 3
- NURS 5874 - Practicum for Primary Care for Children, Adolescents, and Families Credits: 3
- NURS 5875 - Primary Care for Acute & Chronically Ill Adults Credits: 3
- NURS 5876 - Practicum for Primary Care for Acute & Chronically Ill Adults Credits: 3
- NURS 5877 - Primary Care for Acute & Chronically Ill Adults II Credits: 3

Additional Requirements

Expected Student Learning Outcomes

Graduates will:

- engage in evidence-based practice to optimize health outcomes; and
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the DNP Program by the application deadline to be considered for fall admission *(the entire DNP application process is completed online).* The applicant is responsible to make certain that UW is in receipt of all application materials/ fees. The number of students admitted is limited. Admission is a competitive process and applicants meeting minimum requirements are not guaranteed admission to the program. Admission to the university does not guarantee admission to the DNP program in the School of Nursing.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, Admission Criteria & Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the DNP Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All DNP students, regardless of concentration will take a set of core courses. In addition to the core courses a group of specialty courses are required for each NP concentration. Students earning the DNP degree will complete a final scholarly project which is integrated into the FMY and PSH curricula.

The DNP core and clinical courses will be delivered using a combination of online courses; synchronous video web-conferencing, and hybrid courses with periodic intensive on-campus experiences. Clinical placements will be arranged at health care facilities in Wyoming, north central Colorado, or southern Montana.

Program of Study

A detailed, semester sequenced DNP-FMY Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP-FMY Program of Study)*.

Nursing, D.N.P., Psychiatric Mental Health Nurse Practitioner Concentration

The Psychiatric Mental Health Nurse Practitioner (PSH) concentration prepares advanced practice nurses to provide a full range of psychiatric care. Graduates are prepared to assess, diagnose, and manage, to include prescribing psychotropic medications, for people with chronic and acute psychiatric disorders. This degree requires 73 graduate credits.

DNP Core Courses

- NURS 5140 - Pharmacotherapy for Primary Care Credits: 4
- NURS 5165 - DNP: Adv Pathophysiology Credits: 3
- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness Credits: 3
- NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners Credits: 3
- NURS 5830 - Health Behavior Change II: Behavioral Skills for Secondary and Tertiary Prevention Credits: 3
- NURS 5865 - DNP Seminar Credits: 1
- NURS 5866 - DNP Seminar II Credits: 1
- NURS 5891 - Doctor of Nursing Project I Credits: 1

- NURS 5892 - Doctor of Nursing Project II Credits: 3
- NURS 5893 - Doctor of Nursing Project III Credits: 1
- NURS 5894 - Doctor of Nursing Project IV Credits: 2

Psychiatric Mental Health Nurse Practitioner Specialty Courses

- NURS 5826 - Advanced Health Assessment for Psych NPs Credits: 2
- NURS 5828 - Skills for Psychiatric Mental Health Nurse Practitioners Credits: 2
- NURS 5862 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP I Credits: 5
- NURS 5863 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP II Credits: 5
- NURS 5864 - Final PSH Practicum Credits: 6
- NURS 5880 - Neurobiology & Psychopharm Credits: 4
- NURS 5881 - Psychotherapy Models and Theories for Advanced Practice Mental Health Nursing Credits: 3
- NURS 5882 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Adult, Older Adult, and Vulnerable Populations Credits: 4
- NURS 5883 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Child and Adolescent Credits: 4

Additional Requirements

Expected Student Learning Outcomes

Graduates will:

- engage in evidence-based practice to optimize health outcomes;
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the DNP Program by the application deadline to be considered for fall admission *(the entire DNP application process is completed online).* The applicant is responsible to make certain that UW is in receipt of all application materials/ fees. The number of students admitted is limited. Admission is a competitive process and applicants meeting minimum requirements are not guaranteed admission to the program. Admission to the university does not guarantee admission to the DNP program in the School of Nursing.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, Admission Criteria & Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the DNP Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All DNP students, regardless of concentration will take a set of core courses. In addition to the core courses a group of specialty courses are required for each NP concentration. Students earning the DNP degree will complete a final scholarly project which is integrated into the FMY and PSH curricula.

The DNP core and clinical courses will be delivered using a combination of online courses; synchronous video web-conferencing, and hybrid courses with periodic intensive on-campus experiences. Clinical placements will be arranged at health care facilities in Wyoming, north central Colorado, or southern Montana.

Program of Study

A detailed, semester sequenced DNP-PSH Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP-PSH Program of Study)*.

Nursing, M.S., Nurse Educator/Nurse Leader Concentrations

The MS program is a part-time, online degree open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by CCNE or NLNAC. The MS program has two concentrations: 1) Nurse Educator (NE) and 2) Nurse Leader (NL). This degree requires 30 graduate credits.

MS Core Courses

- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5472 - Integrated Advanced Pathophysiology, Pharmacology, and Assessment Credits: 3
- NURS 5473 - Advancing Healthcare Transform Credits: 3
- NURS 5483 - Practicum: Rural Healthcare Leadership Credits: 3
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1

Nurse Educator Specialty Courses

- NURS 5452 - Curriculum Development Credits: 3
- NURS 5462 - Teaching Methodologies and Evaluation Credits: 3

Nurse Leader Specialty Courses

- NURS 5420 - Leadership Within Health Care Systems Credits: 3
- NURS 5461 - Business of Healthcare Credits: 3

Additional Requirements

Expected Student Learning Outcomes

M.S. Graduate are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate concepts from nursing and other sciences to address population health.
- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the MS Program by the application deadline to be considered for fall admission (*the entire MS application process is completed online*). The applicant is responsible to make certain that UW is in receipt of all application materials/fees.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing (*click on Nursing Programs, MS, Admission Criteria/Application*).

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the MS Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, MS, MS Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All MS students, regardless of concentration will take a set of core courses. In addition to the core courses, a group of specialty courses are required for each MS concentration.

Program of Study

A detailed, semester sequenced MS Program of Study can be found on the nursing website: www.uwyo.edu/nursing (*click on Nursing Programs, MS, MS Program of Study*).

School of Pharmacy

292 Health Sciences, (307) 766-6120
FAX: (307) 766-2953
Web site: www.uwyo.edu/Pharmacy
Dean: Kem Krueger
Associate Dean of Students: Tonja Woods

Associate dean for Academic Affairs: Michelle Hilaire

Professor:

SREEJAYAN NAIR, B.S. College of Pharmaceutical Sciences, Manipol, India 1989; M.S. 1991; Ph.D. 1996; Professor of Pharmacology 2014, 2002.

Associate Professors:

MICHELLE BLAKELY, B.A. University of South Alabama 2005; M.Ed. Auburn University 2008; Ph.D. 2011; Associate Professor of Social and Administrative Pharmacy 2023, 2018.

JARED S. BUSHMAN, B.A. University of Utah 2003; M.S. University of Rochester 2006; Ph.D. 2008; Associate Professor of Pharmaceutical Science 2020, 2014.

GUANGLONG HE, B.S. Anhui Normal University 1986; M.S. Chinese Academy of Sciences 1994; Ph.D. 1997; Associate Professor of Medicinal Chemistry 2019, 2013.

KEM P. KRUEGER, Pharm.D. University of Missouri-Kansas City; Ph.D. University of Arizona 1998; Associate Professor of Social and Administrative Pharmacy 2011, 2005.

TRACY D. MAHVAN, B.S. University of Colorado 1995; Pharm.D. 1998; Associate Professor of Pharmacy Practice 2006, 2000.

RESHMI L. SINGH, B.S. Bombay University 1999; M.S. University of Toledo 2001; Ph.D. University of Minnesota 2005; Associate Professor of Social and Administrative Pharmacy 2019, 2013.

Assistant Professors:

SHEBA DAVID, B. Pharm. Tamilnadu MGR Medical University 1998; Ph.D. Jadavpur University 2007; Assistant Professor of Pharmaceutical Sciences 2022.

NERVANA ELKHADRAGY, B.S. Cairo University 2004; Pharm.D. Purdue University 2008; M.S. 2018; Ph.D. 2020. Assistant Professor of Social and Administrative Pharmacy 2020.

Clinical Professor:

MICHELLE L. HILAIRE, Pharm.D. Duquesne University 2002; Clinical Professor of Pharmacy Practice 2016, 2010, 2004.

JAMIE R. HORNECKER, B.S. Texas Tech University 1999; Pharm.D. University of Wyoming 2003; Clinical Professor of Pharmacy Practice 2012, 2005.

TONJA M. WOODS, Pharm.D. University of Wyoming 2002; Clinical Professor of Pharmacy Practice 2023, 2009, 2003.

Clinical Associate Professors:

JED DOXTATER, B.S. University of Montana 2006; M.S. University of North Dakota 2013; Clinical Associate Professor 2021, 2015.

BECKY S. LINN, B.A. University of Wyoming 1997; Pharm.D. 2002; Clinical Associate Professor 2020.

JANELLE L. KRUEGER, B.S. University of Wyoming 1992; M.S. University of Kansas 1997;

Clinical Associate Professor of Pharmacy Practice 2013, 2005.

ALLISON M. MANN, B.S. University of Colorado Boulder 2004; Pharm.D. University of Colorado Denver 2009; Clinical Associate Professor of Pharmacy Practice 2020.

LEENA D. MYRAN, B.S. University of Wyoming 2000; Pharm.D. 2012; Clinical Associate Professor of Pharmacy Practice 2020.

JEREMY VANDIVER, B.A. University of Colorado 2006; Pharm.D. University of Colorado 2010; Clinical Associate Professor 2020.

Clinical Assistant Professors:

JESSICA PAPKE, PharmD, University of Wyoming 2017; Clinical Assistant Professor 2020.

LAVINIA SALAMA, Pharm.D, Albany College of Pharmacy and Health Sciences 2020; Clinical Assistant Professor Pharmacy Practice 2022.

Associate Lecturers:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assocaite Lecturer of Medical Laboratory Science 2021, 2016.

Senior Lecturer:

ANTOINETTE K. BROWN, B.S. University of Wyoming 1992; Senior Lecturer 2024.

DAVID C. BRUCH, B.S. University of Wyoming 1998; Pharm.D. 2010; Senior Lecturer 2023.

Drug Information Director:

MELISSA L. HUNTER, B.S. University of Wyoming 2000; Pharm.D. 2004; Senior Research Scientist 2013, 2007.

Director of Postgraduate Education:

Elliott Sogol, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

Professors Emeriti:

Emery Brunett, Ph.D.
Bruce W. Culver, Ph.D.

E. Kurt Dolence, Ph.D
Linda Gore Martin, Pharm.D.
Kenneth F. Nelson, Ph.D.
Robert B. Nelson, Ph.D.
Robert D. Scalley, Pharm.D.
Beverly, Sullivan, Pharm.D.
M. Glaucia Teixeira, Ph.D.
Weeranuj Yamreudeewong, Pharm.D.

Deans Emeriti:

John H. Vandel, B.S. Pharmacy
Linda Gore Martin, Pharm.D.

Vision, Mission and Values

Vision

The University of Wyoming School of Pharmacy (UWSOP) is nationally recognized for its distinguished and collaborative teaching, research, pharmacy practice, and its entrepreneurial spirit.

Our graduates are highly skilled health professionals and leaders. Our graduates thrive and innovate in diverse and dynamic environments.

Mission

The University of Wyoming School of Pharmacy (UWSOP) advances the holistic developm

ent of our learners, preparing them to embrace change and positively impact the health and well-being of the communities that they serve. We engage in interdisciplinary teaching, research, practice, and service that results in meaningful innovations in healthcare, and improves the health and wellness of Wyoming, national, and global communities.

Statement of Values

The University of Wyoming School of Pharmacy community is committed to supporting and promoting individual and collective excellence in teaching, research, service, and pharmacy practice.

We value learning, collaboration, responsibility, compassion, respect, integrity, diversity, equity, and inclusion in all endeavors.

Graduate Expectations

Our graduates will be recognized and respected for:

- Leading positive change in the communities, organizations, industries, and professions that they serve
- Engaging in collaborative opportunities across disciplines and professions
- Providing evidence-based, empathetic, patient-centered care
- Thinking critically, creatively, ethically, and pragmatically
- Thriving and innovating in dynamic, diverse, and digital environments
- Ability to adapt in an ever-changing environment
- Dedication to excellence and integrity
- Communicating effectively across a wide range of audiences
- Embracing an entrepreneurial spirit

Learning Outcomes

The University of Wyoming adheres to the American Association of Colleges of Pharmacy Curricular Outcomes and Entrustable Professional Activities (COEPA) 2022. This multipage document (and its supplements) can be accessed at https://www.aacp.org/resource/educational-outcomes-and-epas. The school has outlined

student/curriculum learning outcomes; these are available on the school website.

Student/Faculty Relations

The faculty and staff at the School of Pharmacy (SOP) treat students as adults and expect appropriate behavior as beginning professionals. The School of Pharmacy recognizes that the profession of pharmacy demands of its members the utmost degree of professional competence, ethical behavior, and integrity. Upon enrolling at the University of Wyoming SOP and at the start of each academic year, all students will sign a pledge acknowledging that they have received and read the current Honor Code and that they have made a personal commitment to uphold the code and abide by its principles. Similarly, the School of Pharmacy Professionalism Policy for faculty and staff is built on the foundation of respect for others, personal responsibility, the creation and maintenance of trust, and honesty and truthfulness. The administration, faculty, staff, students, and alumni of the School of Pharmacy at the University of Wyoming should strive to set an example of ethical leadership and professional behavior as those traits are essential for good social and business interactions.

Accreditation and Membership

In Wyoming, as in most other states, one requirement for registration as a pharmacist is graduation from an accredited entry-level Pharm.D. program. The Accreditation Council for Pharmacy Education (ACPE), the national accrediting agency for pharmacy, accredits pharmacy degree programs.

The Doctor of Pharmacy program at UW was most recently accredited in 2020 following an on-site evaluation by the ACPE in October 2021. Verification of current accreditation status may be made by: a) contacting the Dean's Office, School of Pharmacy; b) connecting to www.uwyo.edu/pharmacy/; c) contacting the Accreditation Council for Pharmacy Education (190 South LaSalle Street, suite 2850 Chicago IL 60603, (312) 664-3575; cinfo@acpe-accredit.org) or d) by

checking the latest Annual Directory of Accredited Professional Programs published by ACPE.

The school is a member of the American Association of Colleges of Pharmacy and adheres to its educational standards.

Pre-Pharmacy Program and Requirements

Applicants for the Pharm.D. program must complete prepharmacy requirements before they can be admitted. Usually, two academic years totaling 67 credit hours (which may include summer and J-Term semesters) is required to complete prepharmacy requirements.

All prepharmacy coursework must be completed by the end of the spring semester prior to matriculation in the professional program.

Graduates of fully accredited high schools may be admitted to the prepharmacy program with a math placement score of 3 or an ACT math score of 23.

Early Assurance Program (EAP): Students are accepted to the EAP program based on their high school GPA and ACT/SAT scores. High School students can apply to the Pharm.D. program as they are applying for admission to the University of Wyoming as first-year students.

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- OR

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

Doctor of Pharmacy (Pharm.D.) Program

Admission

Admission to the Pharm.D. degree program is limited to 52 students per year and is highly competitive. Admission is granted by the School of

Pharmacy Dean upon the advice of the School of Pharmacy Admissions Committee. Students can apply to the Pharm.D. program as freshman via the Pharmacy Early Assurance program. All students applying to the UW School of Pharmacy must use the PharmCAS application (www.pharmcas.org) process. All materials are submitted to UW using this service. The School of Pharmacy requires no supplemental application. Students granted admission to the Pharm.D. program will have to pay a one-time, non-refundable, seat fee to guarantee their placement into the entering class. In addition students will be required to complete any immunizations necessary for experiential rotations. As part of a College of Health Sciences requirement students are also expected to complete and pass a background check prior to final admission to the professional program.

Students must meet, with or without accommodation, specified physical requirements. The School of Pharmacy's Technical Standards can be found at http://www.uwyo.edu/pharmacy/_files/documents/admin/uwsop-technical-stds-3-2013.pdf.

The School of Pharmacy provides opportunities to ensure that our students have co-curricular experiences in our didactic program. Providing co-curricular options allows students to choose activities that interest them and will allow them to grow as future health professionals. A portion of co-curricular activities throughout the degree program will be required and assessed.

Students at the University of Wyoming SOP are immersed in interprofessional education opportunities during all years of the Pharm.D. program. Interprofessional education provides experiences for Pharm.D. students to collaborate and share knowledge with learners in other health sciences disciplines, which fosters readiness for working in team-based care environments in their future careers.

Program of Study

Requirements for Graduation

The degree of Doctor of Pharmacy (Pharm.D.) is granted upon satisfactory completion of 146 hours in the Pharm.D. curriculum in accordance to the school's academic standards and the fulfillment of the general university requirements. The School of Pharmacy does not accept transfer students into the professional pharmacy program.

Graduation with Honors

The University of Wyoming School of Pharmacy is authorized to grant honors for academic excellence. A Doctor of Pharmacy with honors designation is awarded by the University of Wyoming to students who graduate with exceptional scholarship in Pharmacy.

Exceptional scholarship in pharmacy is defined as a student who is on track to graduate with their class from the University of Wyoming School of Pharmacy and is in the top 5% of their class based on their pharmacy GPA (as assessed at the end of the fall semester of the P4 year). The Pharmacy GPA is calculated on the basis of required professional pharmacy curriculum coursework and excludes required or selected elective hours. The honors distinction must be approved by a School of Pharmacy faculty vote.

Academic Honesty and Professional Conduct

Students admitted to the Pharm.D. program are required to participate and sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Pharm.D. program.

Academic Standards for Progression and Graduation

The course of study in the School of Pharmacy (SOP) is four academic years leading to a Doctor of Pharmacy degree (Pharm.D). The required Pharm.D. coursework is organized in a prescribed, non-

negotiable, sequential manner. All students have a P-designation identifying their year in the program (P1, P2, P3, P4). Required pharmacy courses (PHCY courses) from any national or international pharmacy programs will not be applied to the UW Pharm.D degree. The student may petition that coursework to be applied to the program but must replace those credit hours with additional elective courses. Courses taken as S/U, including electives, are usually considered unacceptable in fulfilling program requirements. Auditing courses for the PharmD degree is not allowed.

The academic standards herein described are expected to be followed by all students admitted to the Pharm.D. program. Any violation will constitute grounds for probation or termination from the Pharm.D. program and will delay progression towards advanced coursework. Probation is a period of time in which the student is allowed to continue in the program under supervision. Students that do not meet academic standards and are placed on probation will have to submit a petition that includes an individualized plan of study for the next semester. This plan must be developed by the student in agreement with and signed by the academic advisor. The petition will be reviewed by the Student Affairs Committee (SAC), which will send a recommendation to the Dean for approval or denial. A leave of absence may be necessary in cases where poor academic performance is due to a medical or personal hardship. The student may appeal sanctions related to violations of the academic standards and decisions that result in probation and termination in the program. Appeals start at the School level, followed by College and University levels, according to policy.

Masters of Health Service Administration (MSHSA) Students will follow the Admission Guidelines and Academic Progression information listed on the following website for Graduate Students: Graduate Student Regulations and Policies

Academic Standards

- A grade of D or lower, or course withdrawal, in any required course of the Pharm.D. program constitutes failure to progress toward the Pharm.D. degree and result in probation.
- A grade of D or lower, in any elective course of the pharmacy program constitutes failure to progress toward the Pharm.D degree and result in probation.

- Students must earn a GPA of 2.000 or better in both University coursework and pharmacy program courses each semester and cumulatively.
- Students must be considered full time with coursework applicable to the pharmacy degree during each semester while in good standing.
- Incomplete coursework must be completed prior to progression into the next academic semester and will halt progression in experiential coursework.
- Students who earn a D or lower in any experiential coursework will have their rotation sequence halted.
- A course taken in the professional pharmacy program course can be repeated only once.
- A maximum of three required courses are allowed to be repeated during the degree program.
- Failure to meet any academic standards for two semesters (not necessarily consecutive) in didactic and/or experiential coursework results in automatic termination from the Pharm.D. program.
- Failure of two experiential courses, not necessarily consecutive, results in termination from the Pharm.D. program.

Elective Credits Policy

The purpose of electives at the School of Pharmacy (SOP) is to complement the pharmacy curriculum, expand knowledge within a specific pharmacy discipline and to ensure completion of the general liberal arts education of the University of Wyoming. Therefore, the following policies have been approved by the faculty for the Doctor of Pharmacy program (thereafter, Program).

As published in the University Catalog and SOP students are required to complete a minimum number of electives, specific for the student's year of matriculation into the Program. This number may vary and may be modified as adjustments are made to the professional curriculum to comply with accreditation standards. Students will be made aware of this number during initial orientation into the Program and kept informed of any changes during their stay in the academic program.

Students must take elective courses to satisfy first the requirements of the University Studies Program (thereafter, USP) and then complete the remaining required electives credits as general elective coursework (Program-approved required number of elective hours).

- Students are required to complete all USP requirements even if they exceed the minimum number of elective hours initially defined in their Program in order to graduate from UW.
- Transfer or online courses from other accredited institutions may be honored as elective credits toward the Program. Students are solely responsible to have all transcripts from other schools sent to the University and make sure that the Director of Student Services and advisors are aware of any transfer work in the Pharm.D. program.
- All required hours (including electives) must be completed by students before progressing into the P4 rotation year. Students will not be allowed to progress toward the 4th year rotations if university studies requirements were not fulfilled.
- Students shall not take electives as Satisfactory/ Unsatisfactory (S/U) credit.
- All courses taken in the preprofessional program or to fulfill requirements in a previous degree cannot be retaken to count as elective hours in the Program. In addition, students cannot use previously taken credit (prior to the professional program) as elective credit in the professional program.
- Credit by exam through the Foreign Languages Dept. will not be accepted as fulfillment of elective requirements in the Program. However, it is a student's right to earn credit by exam for Wyoming History and Government, while receiving elective credits toward the Program and fulfilling USP requirements.
- For procedures and handling of all exceptions to these policies, the students should consult the student handbook, the pharmacy student Share Point site, the SOP website, or check with the Director of Pharmacy Student Services or the Associate Dean of Students.

Curriculum

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware

that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3
- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1
- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0
- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2

- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1
- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
-

- PHCY 6471 - Internal Medicine II Credits: 4
- OR

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4
-

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4
- Students complete 4 sections of PHCY 6465, 4 credits each.

- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1
- Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)
-

- Students need to take one:

- PHCY 6471 - Internal Medicine II Credits: 4
- or

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Graduate Study

Master of Business Administration/Doctor of Pharmacy (M.B.A./Pharm.D.) dual degree.

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree.

Masters in Health Services Administration

292 Health Sciences, (307)766-6120

Website: https://uwyohealthadminms.org/

Director of Postgraduate Education: Elliott Sogol

Faculty

DAVID B. BRUSHWOOD, B.S.Pharm. University of Kansas 1975; J.D. University of Kansas 1981.

ELLIOTT SOGOL, B.S.Pharm. University of Wisconsin 1978; M.S. University of Wisconsin 1983; Ph.D. University of Wisconsin 1986.

The School of Pharmacy offers the Master of Science in Health Services Administration (MSHSA).

This degree is geared toward new and mid-career practitioners including pharmacists, nurses, physicians, social workers, and other health care professionals who want to become department directors, patient safety coordinators and/or directors, regulatory compliance officers, clinical research associates, health outcomes researchers or take on leadership roles as advanced practice practitioners.

The program also benefits health care workers in fields such as management positions, pharmaceutical sales representatives, medical science liaisons, and pharmacy technician educators as well as new clinical faculty at newly established pharmacy colleges.

Available nationwide the master's program is delivered via a mix of online self-study and online project-based coursework.

The program can be completed in two years of part-time study. Students are requested to travel to the UW Laramie campus for two weekend seminars during the two-year program (based on travel restrictions during the pandemic this course was held online). Graduates will be expected to complete 30 credit hours of coursework and pass a comprehensive final exam. Coursework will be completed over five consecutive semesters however students can take up to 6 years to complete the program.

A prospective student should have earned at least a bachelor's degree from a regionally accredited institution.

Academic Honesty and Professional Conduct

Students admitted to the Master of Science in Health Services Administration program are required to sign the University of Wyoming School of Pharmacy Honor Code. Failure to sign the honor code will result in a withdrawal of admission offer or termination from the Master of Science in Health Services Administration program.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration
o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership
o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2
- Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5240 - Pharmaceutical Homicide Credits: 2
- PHCY 5XXX The Chemistry of Poisonings 2 Credits

PHCY 5XXX The Process of Forensic Science 2 Credits

Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2
- Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5XXX Biomedical Ethics 3 Credits

PHCY 5XXX Clinical Research Regulation 2 Credits

Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Cybersecurity 2 Credits

PHCY 5XXX HIPPA Compliance 2 Credits

PHCY 5XXX Disaster Management 2 Credits

Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5XXX Biomedical Ethics 3 Credits

PHCY 5XXX HIPAA Compliance 2 Credits

PHCY 5XXX Clinical Research Regulation 2 Credits

Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4

- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2
- Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3

- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5XXX Information Design and Analysis 2 Credits

PHCY 5XXX Healthcare Information Systems 2 Credits

PHCY 5XXX Information Managment 2 Credits

Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

- PHCY 5XXX Professional Writing in Healthcare 2 Credits

PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits

PHCY 5XXX The Healthcare Message 2 Credits

Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753
FAX: (307) 268-2416
Web site: www.uwyo.edu/pharmacy/mls-program/index.html
Director: Jed M. Doxtater, MS MLS (ASCP)^{CM}

Associate Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Associate Clinical Faculty of Medical Laboratory Science 2021, 2015.

Associate Lecturer

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis

College 2014; Associate Lecturer of Medical Laboratory Science, 2021, 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

- Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.
- Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.
- Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.
- Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.
- Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.
- Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.
- Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.
- Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

- Application of safety and governmental regulations and standards as applied to clinical laboratory science;
- Principles and practices of professional conduct and the significance of continuing professional development;
- Communications sufficient to serve the needs of patients, the public and members of the health care team;
- Principles and practices of administration and supervision as applied to clinical laboratory science;
- Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- Principles and practices of clinical study design, implementation and dissemination of results;
- Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and biohazard and safety.

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program them become eligible to sit for national certification examinations for the profession.

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs.

Contract information:

National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119

http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

- Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.
- Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.
- Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.

- Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory Science degree. See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Students may enter the MLS professional program in the fall or spring semester of their junior year. Application for the program must be submitted to the MLS program director before finals week of the first semester the student has declared the MLS major and is enrolled in a MLS course.

Prior to participating in the enrichment experiences, students will be subject to that agency's requirements for a background check, drug testing and/or drug abuse prevention policies. Students are then subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background check should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo). The Casper College MLT background check is a valid substitute if final semester of MLS program falls within 1 year of check.

After completion and submission of the program application, the student must schedule an interview with the program director for an evaluation for acceptance to the MLS program. Interviews must be completed before the student enrolls in the succeeding semester of coursework. It is the students' responsibility to complete and submit applications, and to schedule an interview with the MLS program director by the due dates.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

The MLS program will provide documentation requirements, as each site may have different requirements for participation (e.g. vaccination records, HIPPA training, safety training, background

check/drug screen etc.). If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR, and program director to ensure all required documentation is provided.

Liability insurance will be required for students entering their senior year coursework. Liability insurance is provided through the University of Wyoming at a cost of $13.00/year to the student.

Health Requirements: The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee. Other health records may be required to participate in enrichment activities including MMR, Tetanus, drug screen, and background check/drug screen.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

- Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.
- Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.
- Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.

- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

- Move freely and safely about a laboratory.
- Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.
- Travel to numerous clinical laboratory sites for practical experience.
- Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.
- Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.
- Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.
- Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.
- Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

- Read and comprehend technical and professional materials.
- Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.
- Clearly instruct patients prior to specimen collection.
- Effectively, confidentially and sensitively converse with patients regarding laboratory tests.
- Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.
- Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

- Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.
- Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.

- Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.
- Be flexible and creative and adapt to professional and technical change.
- Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
- Adapt to working with unpleasant biologicals.
- Support and promote the activities of fellow students and of health care professionals.
- Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.
- Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4
- **OR** MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)

- SOC 1000 - Sociological Principles Credits: 3 **OR** ANTH 1200 Introduction to Cultural Anthropology
- **OR** PSYC 1000

- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)
- OR

- COMM 2010 - Public Speaking Credits: 3

- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)
- OR

- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3
- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2
- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2
- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1
- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4
- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- **Take a minimum of 8 credits from the following courses:**

- LIFE 3050 - Genetics Credits: 4
- OR

- LIFE 3600 - Cell Biology Credits: 4
- OR

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- OR

- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
- OR

- PHCY 4441 - Intro Health Institution Leadership Credits: 3
- OR

Course Approved by Program Director

- STAT 2050 - Fundamentals of Statistics Credits: 4
- **Take a minimum of 3 credits from the following courses:**

- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- OR

- PSYC 4300 - Adolescent Development Credits: 3
- OR

- SOC 3000 - Social Change Credits: 3
- OR

- SOC 3550 - Medical Sociology Credits: 3
- OR

Course approved by Program Director

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2

- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)
- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum-Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

Major

Medical Laboratory Science, B.S.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4
  OR MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)

- SOC 1000 - Sociological Principles Credits: 3

OR ANTH 1200 Introduction to Cultural Anthropology

OR PSYC 1000

- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)

OR

- COMM 2010 - Public Speaking Credits: 3
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)

OR

- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3
- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2
- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2
- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1
- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4

- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4

Take a minimum of 8 credits from the following courses:

- LIFE 3050 - Genetics Credits: 4

OR

- LIFE 3600 - Cell Biology Credits: 4

OR

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2

OR

- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3

OR

- PHCY 4441 - Intro Health Institution Leadership Credits: 3

OR

Course Approved by Program Director

- STAT 2050 - Fundamentals of Statistics Credits: 4

Take a minimum of 3 credits from the following courses:

- MOLB 3000 - Introduction to Molecular Biology Credits: 3

OR

- PSYC 4300 - Adolescent Development Credits: 3

OR

- SOC 3000 - Social Change Credits: 3

OR

- SOC 3550 - Medical Sociology Credits: 3

OR

Course approved by Program Director

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2
- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)

- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum-Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program

under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

Graduate

Doctor of Pharmacy, MBA/PharmD Dual Degree

This dual degree program provides students with a complementary business degree to start their own business or to advance into management positions in their careers. Students acquire decision-making skills that allow them to excel in their field of practice.

Additional Requirements

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of

MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree. Please review the program specific information for each program:

- Business Administration, M.B.A.
- Pharmacy, Pharm.D.
- MBAM 5101 - MBA Foundations Credits: 1
- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 - Executive Leadership II Credits: 1
- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3

MBA-MBA students, including dual degree students, must take an additional nine (9) credit hours of 4000 or 5000 level College of Business courses. Three (3) of these credit hours can be taken outside the College of Business. Dual degree students (JD/Pharm.D./MS) may take three (3) credit hours outside the College of Business following dual degree agreement guidelines. Please contact your advisor for additional information.

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of

Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

Overview

The School of Pharmacy and the Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources offer a dual degree program in which a student who meets the admission qualifications of both programs may simultaneously pursue a combined program of study leading to both the Bachelor of Science degree in Physiology (Physiology BS [PHSO]) and the Doctor of Pharmacy (PharmD) degree. The School of Pharmacy accepts up to ten (10) credit hours of courses in the Physiology BS program toward the credits of the PharmD degree. The College Agriculture, Life Sciences, and Natural Resources Department of Zoology/Physiology accepts up to eighteen (18) credit hours of required courses in the PharmD program toward the credits of the Physiology BS degree. The specific required courses accepted by each will be chosen from the applicable University Catalog. In total, up to twenty (28) credits can be shared across the degrees.

Students will typically spend years one to three in the Department of Zoology and Physiology and years four through seven (4-7) in the School of Pharmacy. Students desiring to complete the dual program in a different sequence should consult with, and seek approval from each program, keeping in mind the program requirements.

Admission to the Dual Program

Student who wish to declare the dual Physiology BS-PharmD program start their freshman year as Physiology or Pre-pharmacy majors and declare as sophomores provided they are on-track to meet the PharmD admissions standards.

Early Assurance: Students in the Dual Degree Program with sophomore standing and a college GPA of 3.3 will be provisionally accepted into the PharmD program, pending a successful interview.

Basic Provisions of the Dual Degree Offering

1. The School of Pharmacy will accept up to ten (10) credit hours of coursework from the Physiology BS program, provided the student earns a grade of "C" or better. The exact courses designated for credit toward the PharmD will be jointly determined from the applicable catalog by an approving authority in both programs.

2. The Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources will accept up to eighteen (18) credit hours coursework from the PharmD, provided the student earns a grade of "C" or better. The exact PharmD courses designated for credit toward the Physiology BS degree will be jointly determined from the applicable catalog by an approving authority in both programs.

3. Separate grade point averages will be calculated for each program.

4. Students in the dual program must meet all other requirements for the PharmD and Physiology BS programs such as co-curricular programming, experiential learning, and other requirements.

5. The PharmD degree and the Physiology BS degree will be awarded when all the degree program requirements for each respective program have been met.

6. Both the School of Pharmacy and the Physiology BS program will include information on their websites about the dual degree and will strive to promote the program as part of their recruitment efforts.

7. The Physiology BS degree will be the primary degree for years 1-3, then the PharmD degree will be the primary degree once the students matriculate into pharmacy school.

Dual Physiology BS/PharmD Degree

I. ADMISSION
a. Interested students should declare the Dual Physiology BS/PharmD Degree track during years 1-3 of the Physiology

II. GRADUATION
a. Students in the dual degree program will complete all graduation requirements for both degree programs.

III. DEGREE CONFERRAL
a. Two separate degrees will be posted and may include a note at the top of either transcript indicating the number of Physiology hours or PharmD hours accepted as electives toward either degree.
b. This will be the only indication on the student's transcript that they were pursuing a dual Physiology BS/PharmD degree. This note may be necessary to account for the shared credits across degrees and comply with the minimum credits required by the University.

Changes to Curriculum

This agreement will apply to the degree requirements for the full-time, on-campus Physiology BS degree and Doctor of Pharmacy degree outlined in the applicable University of Wyoming Catalog. Issues related to individual students or changes in either degree program requirements will be jointly resolved by the School of Pharmacy and the Department of Zoology and Physiology.

Curriculum Information

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program Curriculum for the Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

Health Services Administration, M.S.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration
o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership
o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2

Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2

Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2

Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5240 - Pharmaceutical Homicide Credits: 2

PHCY 5XXX The Chemistry of Poisonings 2 Credits
PHCY 5XXX The Process of Forensic Science 2 Credits
Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2

Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3

Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2

PHCY 5XXX Biomedical Ethics 3 Credits
PHCY 5XXX Clinical Research Regulation 2 Credits
Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

PHCY 5XXX Cybersecurity 2 Credits
PHCY 5XXX HIPPA Compliance 2 Credits
PHCY 5XXX Disaster Management 2 Credits
Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

PHCY 5XXX Biomedical Ethics 3 Credits
PHCY 5XXX HIPAA Compliance 2 Credits
PHCY 5XXX Clinical Research Regulation 2 Credits
Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1

Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2

Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3

Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

PHCY 5XXX Information Design and Analysis 2 Credits
PHCY 5XXX Healthcare Information Systems 2 Credits
PHCY 5XXX Information Managment 2 Credits
Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

PHCY 5XXX Professional Writing in Healthcare 2 Credits
PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits
PHCY 5XXX The Healthcare Message 2 Credits
Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Pharmacy, Pharm.D.

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3
- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1
- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4

- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0
- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2
- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1
- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4

- PHCY 6471 - Internal Medicine II Credits: 4

  OR
- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4

  Students complete 4 sections of PHCY 6465, 4 credits each.

- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

  Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

  Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)

Students need to take one:

- PHCY 6471 - Internal Medicine II Credits: 4

or

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Preprofessional Program

Pre-Pharmacy Program (PPCY)

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- LIFE 1010 - General Biology Credits: 4

- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4

  OR
- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

Division of Social Work

Health Sciences Building, (307) 766-6112
FAX: (307) 766-6839
Web site: www.uwyo.edu/socialwork
Division of Social Work Director: Valerie Thompson-Ebanks, Ph.D., MSW

Associate Professors:

NEELY MAHAPATRA, B.Sc. Utka l University, India 1991; M.Sc. 1993; M.S.S.W. University of Texas-Austin 2003; Ph.D. 2008; Associate Professor of Social Work 2016.

VALERIE THOMPSON-EBANKS, B.Sc. University of the West Indies 2002; M.S.W. 2007; Ph.D. Colorado State University 2012; Associate Professor of Social Work 2018.

Assistant Professors:

MARGARET HOLLAND, B.S.W. Mississippi College 2012; M.S.W. University of South Carolina 2013; Ph.D. Florida State University 2021; Assistant Professor of Social Work 2022.

SANDY LEOTTI, B.A. Prescott College 2002; M.S.W. University of Montana 2006; Ph.D. Portland State University 2019; Assistant Professor of Social Work 2019.

SUKYUNG YOON, B.A. Chung-Ang University 2002; M.S.W. Yonsei University 2008; Ph.D. University of Tennessee 2019; Assistant Professor of Social Work 2019.

Assistant Lecturers:

BILLIE CHAPMAN, B.A. University of Wyoming 2005; M.S.W. 2008; Assistant Lecturer of Social Work 2018.

BETHANY CUTTS, B.S.W. University of Wyoming 2003; M.S.W. 2005; Assistant Lecturer of Social Work 2023.

SARAH S. GREEN, B.A. University of Wyoming 2015; M.S.W. 2019; Assistant Lecturer 2021.

CHRISTINE VENCILL, B.S.W. University of Wyoming 2013; M.S.W. 2016; Assistant Lecturer of Social Work 2023.

Social workers are uniquely qualified to help people in their own environments by looking at different aspects of their lives and cultures. We work to ensure the client's personal well-being, prevent crises, counsel individuals, support families, and strengthen communities. We make sure people get the help they need, with the best resources available.

For more than 100 years, social workers have cared for people in every stage of life. Social workers help others overcome life's most difficult challenges and manage the troubles of everyday living, including the troubles that exist due to poverty, stress, addiction, abuse, unemployment, mental illness, family change, and social violence. Social workers advocate for social justice.

Undergraduate Study

The Division of Social Work prepares students for entry-level generalist social work practice. Two locations offer the social work program: the Laramie campus and the University of Wyoming-Casper campus. Graduates receive a Bachelor of Social Work (BSW) and are prepared to work as generalist social work practitioners with individuals, groups, families, organizations, communities, and institutions to achieve more effective and efficient social functioning.

Our program is accredited by the Council on Social Work Education. The curriculum is designed to help students acquire important knowledge and skills in the areas of values and ethics, diversity, social and economic justice, human behavior and the social environment, social welfare policy and services, social work practice, and research. A competency-based curriculum prepares students to meet an "initial level" of competence in nine core areas (CSWE, 2015). Students also select elective courses in areas such as aging, child and adolescent services, health and mental health, and disability services. The program culminates in a 450-hour supervised field practicum, which allows students to work as social workers in one of Wyoming's many human service agencies.

Social Work Major

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Application for Admitted Major status are due in the middle of the Spring semester or in the middle of the Fall semester. Students should apply during the semester they are completing all social work prerequisite courses. Acceptance to Admitted Major (professional degree program) is competitive and requires an application. Please see application requirements on the Division of Social Work website. Students accepted into the professional degree program are expected to complete their degree in a timely manner. Students who have not completed social work classes for one year or more must reapply for Admitted Major and submit a plan for readiness to continue in the social work degree program. A plan may include, but is not limited to, repeating or auditing a course taken at an earlier point in the student's academic experience, completing an independent study that may provide updated social work content for the student, demonstrating knowledge or practice skills. Readmission is not guaranteed.

Criteria for Admission as an Admitted Major

The admissions process is competitive. Students must meet the following minimum criteria to be considered for Admitted Major status.

1. Students must earn a minimum grade point average (GPA) of 2.50000 on all UW coursework as well as all coursework transferred into the University of Wyoming from other acadmemic institutions.

2. Complete the following prerequisites: a. SOC 1000 b. PSYC 1000 c. POLS 1000 d. SOWK 2000 e. Human Biology (PSYC 2080 or KIN/ZOO 2040) f. STAT 2070 g. ECON 1010

3. Students must earn a grade of C or higher in all SOWK prerequisite classes.

4. Complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher.

5. Students must have at least 60 credit hours at UW or transferrable to UW.

6. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

7. Students cannot exhibit behavior that will impinge on the student's present or future ability to fulfill professional responsibilities as a social work professional.

8. All students seeking admission to programs in the College of Health Sciences are required to undergo a background check as specified by college policy. Criminal convictions may result in rejection of the candidate for admission to Admitted Major.

9. Students must submit an application and an application fee. (See UW Fee Book)

10. Applicants to the social work program cannot receive credit for life experience.

Requirements for Admitted Majors

Once admitted, social work students must:

1. Achieve a C or better in all social work courses, including six hours of required social work electives.

2. Social work classes are offered and must be completed in sequential order.

3. Maintain a 2.500 or above GPA overall every semester after admittance to Admitted Major.

4. Maintain a 2.500 or above GPA overall in all social work course work every semester after admittance to Admitted Major.

5. Registration is restricted and students must meet with their advisor each semester for enrollment.

6. Complete SOWK 4990 with a satisfactory grade.

7. Students must adhere to the UW Student Code of Conduct and the NASW Code of Ethics.

Individuals failing to meet any of the above requirements will be reviewed by faculty and one of the following actions may be taken: remediation, probation, sanction, and/or dismissal from the program. Because many social work courses have prerequisite requirements, receiving a grade lower than a C in a social work course may prevent the individual from moving forward in the social work program.

BSW Field Practicum

All students complete a 450-hour (10 credit hours) field practicum experience in a community-based social agency or social program. Field practicum sites exist throughout the state of Wyoming and students may be placed outside Laramie. Students apply for this program the semester before their actual placement. Students must complete a Field Placement Application and meet with the Field Coordinator prior to determining a practicum site (please review Field Practicum Manual). Background checks and drug screenings may be required by some agencies even though the College of Health Sciences has received a background check during admission to the major.

For the practicum, a grade of U is interpreted as performing below expectations and will not be considered satisfactory completion of the practicum, hence of the BSW program. Based on input from the student, the field instructor, and the faculty liaison during the field evaluation, the field coordinator will

determine what remediation would be required. The plan will clarify course objectives and professional skills upon which the student needs to improve. A student wishing to continue in the program would need to reapply for a field placement. Upon the field committee's approval of the request for placement, the student may then repeat the practicum experience. Consistent with University policy, the most recent grade would be the grade calculated into the GPA. The grade of U is interpreted as not meeting minimal requirements of the course; failure to complete the minimum clock hours in the field placement; failure to complete written assignments in a satisfactory manner; violation of one or more of the tenets of the NASW Code of Ethics (see Appendix B and Termination of Practicum section in the practicum manual); and/or failure to withdraw formally or to terminate the course. A student receiving a U in the practicum will be automatically dismissed from the BSW program with no opportunity to reapply or re-enter. Grades and dismissals may be appealed. (See most current BSW Student Handbook for appeal procedures.)

Requirements for Graduation

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only. USP H and PN courses must be taken outside the major subject but can be cross listed with the major.

BSW Curriculum

Social Work B.S.W. degree plan

Graduate Study

The Master of Social Work (MSW) prepares professional social workers for advanced-level social work practice and leadership positions in frontier and rural human service environments. The Advanced Generalist MSW program is accredited by the Council on Social Work Education. The MSW program graduates practitioners who work within

and negotiate complex multi-dimensional problem settings for both clients and practitioners while embracing the profession's values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, competence, human rights, and scientific inquiry. The MSW full-time, hybrid program, based in Laramie, WY, utilizes a variety of delivery methods to accommodate Standard (2 years) and Advanced Generalist (1 year) students. The MSW part-time program option, based in Casper, WY, offers the same curriculum and model delivery for Standard (3 years) and Advanced Generalist (2 years) students, but provides for greater flexibility of schedule.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program level. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum. Students who have already obtained the BSW degree may apply for the Advanced Generalist MSW program.

Master of Social Work Field Practicum

All students, regardless of status, participate in field practicum experiences. New students submit an initial application for placement, time depending on whether the student is in the full-time or part-time program. Foundation students must complete 900 practicum hours over the course of the Standard curriculum. Advanced Standing students must complete 500 hours over the course of the Advanced Generalist curriculum. All students in practicum must take a corresponding field seminar class.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy. Specific information and procedures relating to all aspects of the field practicum experience can be found in the

Field Practicum Manual located on the Division of Social Work's website.

Wyoming School Social Work Certification

The Division offers the necessary requirements to obtain Wyoming School Social Work certification. Students in the last year of the MSW Program need to successfully complete SOWK 5810 Working with Children and Families in the Schools and complete their field placement within an approved school setting. Upon graduation, students must apply to the Wyoming Department of Education to obtain formal certification. For the most current certification information go to the PTSB website http://wyomingptsb.com/

Graduate Admissions Requirements

The Division of Social Work's Graduate Admissions Committee bases recommendations on review of all application materials (applicant's grades, personal essay, analytic essay, professional references, and any related social service experience) as they reflect the applicant's commitment to social work, social and economic justice, values and ethics of the social work profession, and applicant's potential as a graduate student, social work practitioner, colleague and leader in the social work field. The Committee also looks for the intangible qualities that an applicant brings to the classroom and campus environment and to professional social work.

Once the committee recommends admission of an applicant, the Office of Admissions in Academic Affairs makes the final decision of admission.

Requirements for the Standard MSW Program

• A bachelor's degree with a liberal arts foundation.

• An undergraduate cumulative grade point average (GPA) of 3.000 or above on a 4-point scale.

Requirements for the Advanced Standing MSW Program

• A bachelor's degree in Social Work from a Council on Social Work Education accredited social work program;

• An undergraduate social work GPA of 3.250 or above;

• An overall undergraduate GPA of 3.000 or above;

• Received a B or better and/or a Satisfactory grade in BSW Field Education Practicum.

*International students have special requirements for admission to UW. All are encouraged to contact the International Students and Scholars Office for details before applying.

All Applicants

What Application Reviewers Assess When Reading Personal & Analytic Essays

For both the personal essay and the analytic essay, the reviewers will:

- Assess students' preparedness for graduate studies.
- Confirm adherence to the formatting instructions for each document.
- Validate the use of credible sources cited in the essay that support students' analysis.
- Appraise grammar and spelling skills.
- Evaluate students' ability to think critically and respond in-depth.
- Assess students' ability to write a clear and well-organized response.
- Verify that all questions posed have been answered.

Reviewers will read personal essays to assess whether students have:

- Expanded beyond the desire to "help people."
- Demonstrated critical self-reflection.
- Shown knowledge and understanding of the social work profession.

Reviewers will read analytic essays to assess that students have:

- Described a social justice issue and its importance fully and clearly.
- Presented a well-thought-out approach to create change around the issue.

All applicants meeting minimum criteria will be considered for admission. Applicants will be required to complete a criminal background check through College of Health Sciences.

Program Specific Degree Requirements

All incoming students enter the MSW program in the summer semester of their first year, completing introductory and/or bridge courses as needed for their specific program phase. The MSW program is divided into two levels: generalist and advanced generalist. The generalist year of the MSW program prepares students without a BSW degree for the advanced generalist curriculum in the second year. Students who have already obtained the BSW degree may apply for Advanced Generalist in the MSW program. These students complete only the second-year courses.

Master of Social Work Field Practicum

All students, regardless of status, participate in a field practicum experience, starting in the fall semester. New students submit an initial application for placement upon acceptance into the program.

Foundation students will complete 900 hours in practicum over the course of their two years of study, 400 and 500 hours respectively. Advanced Standing students will complete 500 hours in their one year of study. All students in practicum will take a corresponding field seminar class each semester.

Grading is done as Satisfactory/Unsatisfactory. Receiving a grade of U is considered a failing grade and can result in termination from the practicum. If the practicum is terminated, the student may be offered a remediation plan to retake the required hours. This opportunity is only offered one time. The student may also be referred to the DOSW faculty for review according to the Student Academic and Professional Performance policy.

Specific information and procedures relating to all aspects of the field practicum experience can be found in the Field Practicum Manual located on the Division of Social Work's website.

Major

Social Work, B.S.W.

Want to make a difference in the world? Turn your passion into action. Our BSW program combines classroom and field experience to provide you with knowledge and skills to help improve the quality of life of individual clients and impact communities.

Degree Requirements

This degree requires a minimum of 120 credits, 50 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites for Admission

Prerequisites for admission into the BSW program includes a C or higher in the following courses:

- SOC 1000 - Sociological Principles Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. & Wyoming Constitution USP requirement)
- SOWK 2000 - Introduction to Social Work Credits: 3
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4 (Meets Quantitative USP requirement)
- ECON 1010 - Principles of Macroeconomics Credits: 3
- Human Biology**.** Credits: 3. (PSYC 2080: Biological Psychology or KIN 2040: Human Anatomy)*

    *This requires a prerequisite general biology course, usually LIFE 1003: Current Issues in Biology.
    Be advised: All applicants must complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher and have at least 60 credit hours at UW or transferrable to UW.

Required courses after admission into the Social Work program

NOTE: Once admitted, social work students must achieve a C or better in all social work courses and maintain a 2.500 or above UW and SOWK GPA every semester after admittance to Admitted Major. Please view full requirements and expectations for admitted majors on the Division of Social Work catalog page.

- SOWK 3530 - Human Behavior and the Social Environment I Credits: 3
- SOWK 3630 - Generalist Social Work Practice I, Individual and Families Credits: 3
- SOWK 3645 - Ethical Social Work Practice Credits: 3
- SOWK 4060 - Diversity and Difference in Social Work Practice Credits: 3
- SOWK 3540 - Human Behavior and Social Environment II Credits: 3

- SOWK 3640 - Generalist Social Work Practice II, Groups Credits: 3
- SOWK 3650 - Generalist Social Work Practice III; Communities and Organizations Credits: 3
- SOWK 4850 - Human Rights, Social Justice and Social Policy Credits: 3
- SOWK 4560 - Social Work Research Credits: 3
- SOWK 4990 - Social Work Practicum Credits: 5-10 (5 credits each semester of final year). For full details of the BSW field practicum, view the Division of Social Work page.
- SOWK 4991 - BSW Field Seminar I Credits: 2
- SOWK 4570 - Research-Informed Practice Credits: 3 (Meets Communication III USP requirement)
- SOWK 4992 - BSW Field Seminar II Credits: 2
- Social Work electives Credits: 6 (selected with advisor consultation)

Electives

General Electives (28-29 credits)

Degree must include 120 credits total, at least 42 of which must be upper-division credits. Total number of general elective credit needed may vary per student. Consult with your academic advisor to determine the best electives for your particular interests or needs. It may be worthwhile to add a minor to your degree.

Suggested lower-division electives:

Below are suggested lower-division electives that can be taken before admission into the BSW program. Consult with your academic advisor to determine the best electives for your particular interests or needs. It may be worthwhile to add a minor to your degree.

- SPAN1010 - First Year Spanish I Credits: 4
- SPAN1020 - First Year Spanish II Credits: 4
- RELI1000 - Introduction to Religion Credits: 3
- WIND2100 - Introduction to Disability Studies Credits: 3
- SOC2350 - Race and Ethnic Relations Credits: 3

Suggested upper-division electives:

- FCSC 3110 Personal Finance Credits: 3

- FCSC 4112 Family Decision-Making and Resource Management Credits: 3

Additional Requirements

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Acceptance to Admitted Major (professional degree program) is competitive and requires an application. See the Division of Social Work catalog page for full admission requirements.

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only.

Graduate

Social Work, M.S.W.

Division of Social Work offers an MSW with a concentration in **advanced generalist social work practice**. The Standard Program is for non-BSW graduates; Advanced Standing Program is for students with a BSW. Part-time program available.

MSW Standard Program

- SOWK 5100 - Principles and Philosophy of Social Work Credits: 3
- SOWK 5115 - Social Welfare Policy: Human Rights and Social Justice Credits: 3
- SOWK 5120 - MSW Foundation Field Seminar I Credits: 1
- SOWK 5121 - MSW Foundation Field Seminar II Credits: 1
- SOWK 5200 - Human Beh & Soc Environmt I Credits: 3

- SOWK 5210 - Human Behavior and the Social Environment II Credits: 3
- SOWK 5300 - SW Generalist Practice I Credits: 3
- SOWK 5310 - Generalist Social Work Practice II Credits: 3
- SOWK 5400 - Social Work Generalist Research Methods Credits: 3
- SOWK 5450 - Field Practicum I Credits: 3
- SOWK 5460 - Field Practicum II Credits: 5
- SOWK 5500 - Advanced Policy: Advocacy and Social Action Credits: 3
- SOWK 5600 - Advanced Generalist Practice Credits: 3
- SOWK 5700 - Advanced Theories and Practice with Children and Families Credits: 3
- SOWK 5705 - Advanced Generalist Practice 3 Credits: 3
- SOWK 5720 - Leadership Prac in Comm & Orgs Credits: 3
- SOWK 5750 - Applied Research: Practice Evaluation Credits: 3
- SOWK 5850 - Advanced Field Practicum Credits: 2-10
- SOWK 5855 - MSW Advanced Field Seminar I Credits: 1
- SOWK 5856 - MSW Advanced Field Seminar II Credits: 1-8
- SOWK 5000 - Topics: Social Work Credits: 1-3
- SOWK 5755 - MSW Portfolio Credits: 1

OR

- SOWK 5960 - Thesis Research Credits: 1-12

TOTAL: 66-68 credits

NOTES

- **MSW Standard students must take one social work elective (3 credits) at any time during their program. The elective must be at the 5000 level.**

MSW Advanced Standing Program

- SOWK 5495 - Social Work Research and Analysis Credits: 3
- SOWK 5499 - Advanced Generalist Social Justice Practice Credits: 3
- SOWK 5500 - Advanced Policy: Advocacy and Social Action Credits: 3

- SOWK 5600 - Advanced Generalist Practice Credits: 3
- SOWK 5700 - Advanced Theories and Practice with Children and Families Credits: 3
- SOWK 5705 - Advanced Generalist Practice 3 Credits: 3
- SOWK 5720 - Leadership Prac in Comm & Orgs Credits: 3
- SOWK 5850 - Advanced Field Practicum Credits: 2-10
- SOWK 5855 - MSW Advanced Field Seminar I Credits: 1
- SOWK 5856 - MSW Advanced Field Seminar II Credits: 1-8
- SOWK 5000 - Topics: Social Work Credits: 1-3

(3 credits)

- SOWK 5755 - MSW Portfolio Credits: 1

OR

- SOWK 5960 - Thesis Research Credits: 1-12

(4 credits required total)

TOTAL: 38-40 Credits

NOTES

- **The program can be completed on a full-time or part-time basis. Students must be admitted to a specific program option: full-time or part-time.**
- **MSW advanced students must take one social work elective (3 credits). The electives must be at the 5000 level.**

Wyoming Institute for Disabilities (WIND)

147 Health Sciences Building, (307) 766-2761
FAX: (307) 766-2763
Web site: www.uwyo.edu/wind
Interim Executive Director: Michelle Jarman, Ph.D.

Professor, Interim Executive Director:

MICHELLE JARMAN, B.A. University of California at Berkeley 1989; M.A. Northern Michigan University 2000; Ph.D. University of

Illinois at Chicago 2006; Professor of Disability Studies 2014, 2007.

Associate UCEDD Directors:

ERIC J. MOODY, B.S. Pacific Lutheran University 1998; M.A. University of Denver 2004; Ph.D. 2007; Postdoc University of Colorado School of Medicine 2011; Research Professor, Director of Research and Evaluation 2018.

CANYON HARDESTY, B.S. University of Wyoming 2004; M.S. 2007; M.S. Creighton University 2011; Associate Lecturer 2018, 2013.

Senior Lecturer:

SANDRA ROOT-ELLEDGE, B.S. University of Wyoming 2001; M.A. 2003; Senior Lecturer, 2018, 2009, 2004.

Associate Lecturer:

TERRI WOFFORD, B.S. University of Central Florida 1994; M.S. East Tennessee State University 1998; Associate Lecturer 2020.

The Wyoming Institute for Disabilities (WIND) is part of a national network of University Centers of Excellence in Developmental Disabilities Education, Research and Service (UCEDD). These centers provide a broad array of interdisciplinary academic, clinical, and research experiences of people with disabilities-particularly developmental disabilities. A wide variety of disciplines contribute to the study of disabilities.

WIND offers a Disability Studies Minor which investigates broad questions about the nature, meanings, and consequences of disability from interrelated social, historical, cultural, and political perspectives. The undergraduate minor in disability studies examines disability issues from multiple lenses, and draws specifically from social sciences, humanities, and health sciences.

Disability studies has an ethical commitment to place the interests and voices of people with disabilities at the center of our curricula and training

activities. The minor balances theoretical exploration with practical application, and provides students with a vibrant understanding of disability history, cultural representation, policy concerns, and current debates. Ultimately, students in the minor will work closely with people with disabilities, and gain the skills and perspectives to participate in unique disability research and advocacy.

Minor

Disability Studies Minor

A diverse interdisciplinary field that investigates the nature, meanings, and consequences of dis/ability from social, cultural, and policy perspectives.

Program Goals:

Disability studies views disability as a political construction, cultural identity, and valued lived experience, not simply as a medical condition. The minor curriculum embeds these overarching goals:

- Promoting full civic integration of people with disabilities;
- Positioning disability as an integral aspect of human diversity; and
- Addressing disability rights, equity, and justice in personal, relational, community, and structural contexts.

Requirements:

All students in the minor are required to complete 18 credit hours consisting of three WIND core courses, one WIND elective, and two additional WIND or external electives related to disability studies. External electives should be selected in consultation with a disability studies faculty advisor.

Required Core Courses: 9 Credits

- WIND 2100 - Introduction to Disability Studies Credits: 3
- WIND 4020 - Disability Studies Theory and Practice Credits: 3
- WIND 4500 - Practicum Credits: 3

WIND Electives: 3-9 Credits

At least 3 credits, and up to 9 credits, selected from WIND electives:

- WIND 2400 - Gender and Disability Credits: 3
- WIND 2490 - Special Topics Credits: 1-3
- WIND 3150 - Literature and Medicine Credits: 3
- WIND 4050 - Independent Study Credits: 1-3
- WIND 4100 - Global Disability Studies Credits: 3
- WIND 4200 - Diverse Minds Credits: 3
- WIND 4300 - Transnational Disability Studies Credits: 3
- WIND 4600 - Special Topics Credits: 3

External Electives: 0-6 Credits

The following UW courses are accepted as external electives:

- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- EDEX 2484 - Introduction to Special Education Credits: 3
- SPPA 4070 - Deaf Studies Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3
- Note: many courses in GWST, AMST, and other units in the School of Culture, Gender, and Social Justice would also be acceptable external electives.

More Information:

As an interdisciplinary minor, this program complements majors across the university. For more information, visit the website: www.uwyo.edu/wind/disabilitystudies/index.html, contact program director, Michelle Jarman at mjarman@uwyo.edu or by phone at 766-5060, or visit the WIND office located in the Health Sciences Building, room 147.

18 Credit Hours Total

Medical Laboratory Science

Aley Hall, UW-Casper, (307) 268-2753

FAX: (307) 268-2416

Web site:
www.uwyo.edu/pharmacy/mlsprogram/index.html

Director: Jed M. Doxtater, MS MLS (ASCP)

Assistant Clinical Faculty:

JED M. DOXTATER, B.S. University of Montana 2007; M.S. University of North Dakota 2013; Assistant Clinical Faculty of Medical Laboratory Science 2015.

Assistant Lecturer:

CHARLIE P. CRUZ, B.S. Lorma Colleges 1998; M.A. Don Mariano Marcos Memorial State University 2003; M.S. Lyceum of the Philippines University Batangas 2016; Ph.D. Saint Louis College 2014; Assistant Lecturer of Medical Laboratory Science 2016.

Mission and Goals

The mission of the Bachelor of Science in Medical Laboratory Science program at the University of Wyoming-Casper is to educate, train, and produce highly competent, ethical professionals who are committed to lifelong learning. Curriculum is designed to prepare students to meet current and future workplace challenges and technological advancements in the profession.

Program Goals

1. Provide education in accordance with the National Accrediting Agency for clinical Laboratory Sciences (NAACLS) standards for Medical Laboratory Science programs.

2. Provide students with adequate knowledge and background experience to successfully complete the national certification examination appropriate to their level of training.

3. Provide opportunity for students to develop skills in effective communication sufficient to serve the needs of patients, public, and other healthcare professionals.

4. Graduate well qualified Medical Laboratory Scientists who can function at a career entry level, and are prepared to meet the workforce needs of the state of Wyoming and the nation.

5. Provide students with professional role models so that they may develop and practice professional behaviors, attitudes and ethics necessary to work in, and promote the field of Medical Laboratory Science.

6. Periodically undergo program review to meet the diverse educational needs of students, accreditation standards and industry demands for qualified, skilled entry level practitioners.

7. Establish an advisory board of professionals, community partners and stakeholders for program development, evaluation and improvement.

8. Promote membership and active participation in professional societies.

Outcomes

Description of Entry Level Competencies of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

• Application of safety and governmental regulations and standards as applied to clinical laboratory science;

• Principles and practices of professional conduct and the significance of continuing professional development;

• Communications sufficient to serve the needs of patients, the public and members of the health care team;

• Principles and practices of administration and supervision as applied to clinical laboratory science;

• Educational methodologies and terminology sufficient to train/ educate users and providers of laboratory services;

• Principles and practices of clinical study design, implementation and dissemination of results;

• Theoretical knowledge and technical skills of concepts relating to all content areas required by NAACLS, including Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology, Microbiology, Urine and Body Fluid Analysis, Laboratory Operations and

biohazard and safety

Accreditation

The Medical Laboratory Science Program at the University of Wyoming is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualification and educational standards. Participation in the accreditation process is voluntary since there is not a legal requirement for specialized programs and institutions to participate. However, when students complete a NAACLS accredited program they become eligible to sit for national certification examinations for the profession. The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a nonprofit organization that independently accredits medical technologist (MLS), clinical laboratory technician/medical laboratory

technician (CLT/MLT), histotechnologist (HTL), histologic technician (HT), pathologists' assistant (Path Asst), diagnostic molecular scientist (DMS) and cytogenetic technology (CT), Phlebotomist (PBT), and clinical assistant (CA) educational programs. *Contract information:* National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119 http://www.naacls.org

Prerequisites for Admission to the MLS Professional Program

Students must meet the following minimum criteria to be considered for Admitted Major status:

• Completion of the Casper College A.S. degree in MLT within 5 years or B.S. degree in a related science.

• Minimum grade point average (GPA) of 2.000 on all course work transferred into the University of Wyoming at Casper from other academic institutions.

• Successful completion of the Medical Laboratory Technician BOC exam is preferred. Students that have not completed the BOC may be admitted with MLS program directors approval.

• Students admitted to the program that do not hold an A.S. in MLT or a B.S. in a related science may be required to complete the University of Wyoming University Studies program in addition to the basic requirements for the Bachelor of Science in Medical Laboratory

Science degree.

See the current requirements at http://www.uwyo.edu/unst/

Applying for Admission to MLS Professional Program

Upon completion of the prerequisite requirements of the program, students may apply to the professional program in the fall semester of their senior year. Applications for the program must be submitted to the MLS program director before finals week of the fall semester prior to entering the professional

program Advanced Clinical Practicum (ACP) coursework. It is the students' responsibility to complete and submit applications by the defined due date.

Students are required to complete an observational enrichment experience during the final MLS semester. This observational experience is designed to demonstrate advanced concepts and topics presented in the MLS curriculum, in a practical setting.

Prior to participating in the enrichment experience, students may be subjected to that agency's requirements for HIPAA training, a background check, drug testing and/or drug abuse prevention policies. Students may be subject to the random drug testing policy of that agency. These background checks are routinely required by schools, hospitals, and other agencies that participate in on-site training. Background checks should be obtained from Viewpoint screening (https://www.viewpointscreening.com/uwyo).

Students must meet the vaccination and health insurance requirements of the university. Vaccinations are available through the county health department or through student health on the UW-C campus, and liability health insurance is available through the University of Wyoming. Current enrichment site affiliates do not require a background check, drug screen or proof of vaccination, as the university vaccination requirements exceed that of the facility. If a student finds an appropriate observational enrichment experience outside of the opportunities available through the MLS program, the student must communicate the site to the MLS program director for approval. This notification should occur well in advance to entering the professional program. It will be the responsibility of the student to arrange the experience with the appropriate site personnel/HR and program director, to ensure all required documentation is provided. The student must provide proof of health insurance and Hepatitis B vaccination (or declination) to participate in on-campus student laboratory sessions. Hepatitis B vaccinations are available on the UW-C campus at student health, or at the county health department for a small fee.

Essential Functions

Applicants must meet certain essential functions as defined by NAACLS. If you feel that you do not meet these essential functions, careful consideration should be made and advisement received before entering the MLS Program. Essential functions are the abilities and essential functions that a student must be able to perform to be successful in the learning experiences and completion of the program.

Observational Requirements

The MLS student must be able to:

• Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.

• Characterize the color, odor, clarity, and viscosity of biologicals, reagents or chemical reaction products.

• Employ a clinical grade binocular microscope to discriminate among the structural and color (hue, shading, and intensity) differences of microscopic specimens.

• Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.

Movement Requirements

The MLS student must be able to:

• Move freely and safely about a laboratory.

• Reach laboratory bench-tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.

• Travel to numerous clinical laboratory sites for practical experience. • Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.

• Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients.

• Control laboratory equipment (i.e., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.

• Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.

• Perform fine hand manipulations with dexterity.

Communication Requirements

The MLS student must be able to:

• Read and comprehend technical and professional materials.

• Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.

• Clearly instruct patients prior to specimen collection.

• Effectively, confidentially and sensitively converse with patients regarding laboratory tests.

• Communicate with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format.

• Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

Behavioral Requirements

The MLS student must:

• Be able to manage the use of time and be able to systematize actions in order to complete professional and technical tasks within realistic constraints.

• Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.

• Be able to provide professional and technical services while experiencing the stresses of task-related uncertainty and a distracting environment.

• Be flexible and creative and adapt to professional and technical change.

• Recognize potentially hazardous materials, equipment, and situation and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.

• Adapt to working with unpleasant biologicals.

• Support and promote the activities of fellow students and of health care professionals.

• Realize that the promotion of peers helps furnish a team approach to learning, task completion, problem solving and patient care.

• Be honest, compassionate, ethical and responsible.

Request for Accommodation

All students are held to the same academic and technical standards. Applicants/students with disabilities seeking accommodation must discuss their disability and accommodation needs with the University Disability Support Services (udss@uwyo.edu or (307) 766-6189; TTY: (307) 766-3073). If appropriate and upon request and registration of the applicant, a reasonable accommodation will be made consistent with University of Wyoming guidelines.

Requirements for the Bachelor of Science in Medical Laboratory Science

Medical Laboratory Science, B.S. degree plan

Dental Hygiene

Health Sciences Advising Office

Craig Vaske, Manager

Phone: (307) 766-3878

Email: hsadvise@uwyo.edu

Web site: http://www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html

The University of Wyoming and Sheridan College offer a cooperative program of dental hygiene education which, when completed, results in two degrees. An Associate of Applied Science degree in dental hygiene is awarded by Sheridan College following completion of the prerequisites and dental hygiene prescribed study. An optional Bachelor of Science in Dental Hygiene (BSDH) degree is awarded by the University of Wyoming following completion of the Associate of Applied Science in dental hygiene, the University Studies Program, and other requirements of the University of Wyoming, for a total of 120 credit hours including 42 upper level hours, 30 of which must be from the University of Wyoming. See www.uwyo.edu/hs/divisions-and-programs/dental-hygiene-program.html.

The American Dental Association has awarded full accreditation to the Associate of Applied Science degree in dental hygiene at Sheridan College. Graduates are eligible to take the National Board of Dental Hygiene exam, as well as regional and state exams for licensure, as registered dental hygienists.

Applicants should visit www.sheridan.edu/academics/programs-a-z/dental-hygiene for specific prerequisites and application materials. Applications are due to Sheridan College prior to February 15 of the year they wish to enter the program. Class sizes are limited. Admission is contingent upon successful completion of a background check.

In order to be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed on Dental Hygiene, B.S.D.H. Courses in anatomy, physiology, and microbiology must be current within five years at the time of application to the Dental Hygiene professional program. Students must also complete a minimum of 20 hours of dental hygiene observation prior to application. Completion of the prerequisite courses and observation does not guarantee admission to the professional program. If admitted, students complete their coursework in Sheridan, Wyoming.

Prospective applicants can take prerequisite courses at any accredited higher education institution. To

view a list of prerequisites, see the degree program page in this catalog. Students who are completing prerequisite courses at the University of Wyoming are advised by the Health Sciences Advising Office (hsadvise@uwyo.edu). These students apply to UW as "Pre-Dental Hygiene" students.

NOTE: This major is not appropriate for students preparing to apply to dental school.

Learning Outcomes

The primary objective of the program is to assure that graduates have knowledge and abilities necessary to successfully practice dental hygiene.

Major

Dental Hygiene, B.S.D.H.

Dental hygienists play an important role in promoting health by helping patients understand the connection between good oral health and an overall healthy body. They provide patient education and individualized therapeutic services to help patients reach their oral health goals.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Prerequisites

Students interested in the bachelor's degree in dental hygiene should contact the Health Sciences Advising Office at Health Sciences 110, phone (307)766-3878, e-mail: hsadvise@uwyo.edu.

To be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed below. These may be taken at any accredited institution, but if taken at the University of Wyoming, the course numbering will be as follows:

- MATH 1400 - College Algebra Credits: 3
- LIFE 1010 - General Biology Credits: 4
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR CHEM 1020 General Chemistry I
- MICR 2021 - General Microbiology Credits: 4

  OR MOLB 2021 General Microbiology
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4

UW Requirements for the BSDH Degree

To receive a BSDH through the University of Wyoming, students must also take the following courses:

- Program prerequisites
- A.A.S. in Dental Hygiene from Sheridan College (competitive application required)
- Completion of all USP requirements, including the US and Wyoming Constitutions (USP-V) and Communication III (USP-COM3) requirements
- STAT 2050 or STAT 2070
- At least 120 credits hours, 42 of which are upper-division credits. This usually requires the completion of additional upper-division elective credits. Note: talk to an advisor to know whether you need to fulfill any additional credits toward your BSDH (hsadvise@uwyo.edu).

Required Courses

Required courses after admission to the Dental Hygiene program at Sheridan College (NWCC-D):

Sheridan College Courses

Sheridan College courses, taught ONLY at Sheridan College in Sheridan, WY.

- DHYG 2100 - Dental Health Education Credits: 3
- DHYG 2300 - Preclinical Dental Hygiene Credits: 3
- DHYG 2305 - Clinical Dental Technology Credits: 1
- DHYG 2405 - Dental Anatomy Credits: 2
- DHYG 2450 - Oral Radiology Credits: 3
- DHYG 2451 - Oral Radiology Lab Credits: 1
- DHYG 2470 - Orientation to Dental Hygiene Credits: 3
- DHYG 2200 - Pharmacology Credits: 2
- DHYG 2210 - Dental Embryology & Histology Credits: 2
- DHYG 2350 - Clinical Dental Hygiene I Credits: 3
- DHYG 2400 - Head, Neck, and Oral Anatomy & Physiology Credits: 2
- DHYG 2420 - Clinical Seminar I Credits: 2
- DHYG 2455 - Dental Materials Credits: 2
- DHYG 2456 - Dental Materials Lab Credits: 1

University of Wyoming Courses

University of Wyoming courses (details below), taught ONLY at Sheridan College in Sheridan, WY.

- DHYG 3230 - Clinical Seminar II Credits: 2
- DHYG 3300 - Clinical Dental Hygiene II Credits: 5
- DHYG 3400 - General and Oral Pathology Credits: 3
- DHYG 3600 - Ethics and Law in Dental Hygiene Credits: 2
- DHYG 3750 - Periodontology Credits: 3
- DHYG 3770 - Pain Management Credits: 2
- DHYG 3775 - Pain Management Lab Credits: 1
- DHYG 3250 - Clinical Seminar III Credits: 2
- DHYG 3350 - Clinical Dental Hygiene III Credits: 5
- DHYG 3550 - Community Dental Health Credits: 3
- DHYG 3720 - Office Practice Credits: 2
- DHYG 3800 - Board Review Credits: 1

Department of Military Science

Army ROTC

137 Hill Hall, (307) 766-3390
FAX: (307) 766-3383
Web site: www.uwyo.edu/armyrotc

Professor:

JONATHAN CURTIS, U.S. Military, Military Intelligence West Point B.S.; MSA Central Michigan University 2019; Professor of Militrary Science 2020.

Lecturer:

JEREMIAH SCHUCHARDT, Master Sergeant, U.S. Army; Senior Military Instructor 2019.

The Department of Military Science - Army ROTC faculty is composed of U.S. Army officers and senior noncommissioned officers. These officers hold bachelors' and masters' degrees in a variety of fields. Noncommissioned officers hold associate degrees in a variety of fields. Officers' military education includes completion of the Officer Basic

Course and the Officer Advanced Course. Several faculty are graduates of the Army's Command and General Staff College and have completed military specialty schools such as: Flight School, Ranger School, Airborne School, Air Assault School, Special Forces School, Jumpmaster Course, Special Operations Training and Language School.

General Information

Army ROTC is a program which offers qualified college students the opportunity to graduate as officers and serve tours in the U.S. Army, the Army National Guard or the U.S. Army Reserve. The four-year program is divided into two parts called the basic course and the advanced course. The basic course, consisting of 8 credit hours, is usually taken during the first two years of college. No military obligation is incurred by enrolling in the basic course.

The advanced course, usually taken during the junior and senior years or during graduate school, involves 19 credit hours of study and a five-week Leadership Development and Assessment Course during the summer. Advanced course students incur a military obligation, and they receive up to $500.00 per month in tax-free subsistence throughout the academic year.

Army ROTC is not itself a major. Participants pursue the degree of their choice and take Army ROTC as an elective program. Those who complete the program may receive federal commissions from the President of the United States.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

ARMY 3010.....3

ARMY 3020.....3

ARMY 3025.....1

ARMY 3026.....1

ARMY 3030.....3

ARMY 4010.....2

ARMY 4020.....2

ARMY 4015.....1

ARMY 4016.....1

ARMY 4025.....1

ARMY 4026.....1

HIST 2020 or HP 4900.....3

Total credit hours 22

The military science minor, encompassing 22 credit hours, will prepare selected students for commissioning and establish a sound basis for their future professional development.

To be eligible for a commission, U. S. citizens must meet prescribed physical, intellectual, and moral standards in addition to completing Army ROTC studies and successful completion of Professional Military Education (PME) courses. These PME courses include written communication skills, military history and computer literacy. A two-year option is available for sophomore and junior students, students with prior military service (see below), and those completing a masters program.

In the Army ROTC classroom the student is exposed to a wide variety of subjects designed to instill confidence, self-discipline, integrity and responsibility. Students gain an appreciation for the role of national defense, and learn what a leader must be, know and do in order to gain the respect and support of their subordinates.

Skills learned in Army ROTC, including resource management, leadership and planning are valuable and complement any university major. Young commissioned officers returning to civilian sectors after military service find an abundance of career opportunities.

Uniforms, Pay and Allowances

All uniforms, books and other instructional materials required in Army ROTC are provided to basic and advance course students at no cost. The cadet uniform is the same as the U.S. Army uniform except for the distinctive ROTC insignia.

Advanced course participants are paid a tax-free subsistence allowance of up to $500.00 per month during the school year. During the summer training period students receive pay, travel, rations, quarters, clothing, and medical and dental services.

Two Year ROTC Program

The two-year program is designed for community college graduates and university students of sophomore or junior standing who did not take Army ROTC during the first two years of school. The program may also apply to seniors and graduates who have at least two years remaining in post graduate study.

To enter the two-year program, students must first attend a paid 28-day internship during the summer or be a veteran who has graduated from advanced individual training.

Special Scholarship Program

pecial Scholarship Program Two-, three-, and four-year scholarships are offered by Army ROTC. These scholarships pay full tuition, laboratory fees and a $1200 per year book fee. While on scholarship, the student receives up to $500.00 a month during the school year. In addition to active duty scholarships, Army ROTC offers scholarships to students wishing to join the U.S. Army Reserve or Army National Guard upon commissioning. These reserve scholarships also pay full tuition, laboratory fees, book fees, and up to $500.00 a month. Graduate students and undergraduate students are eligible to apply for the two- and three-year scholarships. These scholarships are awarded by the Professor of Military Science. Students do not have to be enrolled in ROTC to apply for these scholarships. Certain restrictions apply. High school juniors and seniors seeking a four-year scholarship should contact the Professor of Military Science, Army ROTC, Dept. 3167, 1000 E. University Ave., Laramie, WY 82071. College students desiring a scholarship should contact the Professor of Military Science in 154 Wyoming Hall, (307) 766-3390.

Scholarships are offered to ROTC cadets from several military associations. The Reserve Officers Association (ROA), Association of the U.S. Army (AUSA), Cowboy Battalion Alumni Association (CBAA), the United Services Automobile Association (USAA) and First Command offer annual cash awards to ROTC cadets.

Room and board scholarships are available to students who enroll in Army ROTC. Scholarship awards are based on merit and the student's potential to become a commissioned officer. The number of scholarships and dollar amount vary dependent on funds available. Room and board scholarships may only be used in UW residence halls or university apartments.

Leadership Laboratory

Leadership laboratory provides instruction that complements the classroom. This time provides practical application on subject matter taught in class. Leadership and management dynamics are inherent in this practical application. All students enrolled in a military science course must enroll in the appropriate leadership laboratory unless consent is obtained from the Professor of Military Science. Training includes land navigation, first aid, communications, basic rifle marksmanship, drill and ceremonies, decision making, squad movement and problem solving. This instruction is cadet planned and presented with immediate instructor feedback. The goals of this period are to instill self-confidence, self-discipline and responsibility in each cadet.

Land navigation skills are practiced in a variety of terrain locations near campus. The training instills trust and confidence in the cadet's ability to accurately plot and follow a compass course. Communication, such as radio, telephone and interpersonal skills, are taught and practiced. Marksmanship is taught in the Half-Acre rifle range and on other ranges, weather permitting. Finally, drill and ceremonies teaches methods of organizing and moving groups of individuals in an orderly manner resulting in team building while establishing esprit de corps.

Veterans' Option

Veterans of active military service and members of the National Guard or U.S. Army Reserve may

qualify to go directly into the advanced Army ROTC program if they will be an academic junior. In these cases, basic training fulfills the requirement of the first two years of ROTC (Basic Course). Academic freshmen and sophomores are not required to take basic course classes but are highly encouraged to do so. It is common for members of the National Guard to study to become commissioned officers via the ROTC program. The Simultaneous Membership Program (SMP) is a formalized program for advanced course Guard members and Reservists to combine their unit training with ROTC training. In many cases the SMP program will result in increased financial benefit to the individual.

Military Obligation

There is no military obligation for taking the basic course, freshman and sophomore years. When an individual starts the advanced course, he or she incurs an obligation. The nature of that obligation depends upon whether the individual elects to serve in the National Guard, the Army Reserve or the active Army, and whether the individual has an Army scholarship. Those who desire guard or reserve duty may contract specifically for that purpose. The guard and reserve obligation is six years of monthly training meetings and two years of inactive ready reserve (IRR). The active duty obligation is four years Active duty, and four years of inactive ready reserve (IRR).

Extracurricular Activities

Army ROTC offers a variety of activities which are designed to promote an interest in the military and provide relaxing, enjoyable leisure activities for cadets.

The Cowboy Battalion has its own Ranger Challenge team, which is a varsity-level team that competes with other universities in military skills such as orienteering and soldier skills. The battalion also has a cannon crew, mounted color guard, 10-miler team, Bataan Death March team, and participates in intramural sports.

The department periodically sponsors other activities such as rapelling demonstrations, ranger weekends, battlefield tours, leadership exercises and other

adventure training, such as mountaineering, land navigation exercises, patrolling and wilderness survival.

Suggested Course Sequence

FRESHMAN YEAR:Fall Hrs.

ARMY 1010 2

Lab (mandatory).....0

PEAC 1272 (voluntary).....1/2

ARMY 1011 1

ARMY 3060 (voluntary).....1

FRESHMAN YEAR: Spring Hrs.

ARMY 1020.....2

Lab (mandatory).....0

ARMY 1012 1

SOPHOMORE YEAR: Fall Hrs.

ARMY 2010.....2

Lab (mandatory).....0

ARMY 2011.....1

ARMY 2060 (voluntary).....2

ARMY 3070 (voluntary).....2

SOPHOMORE YEAR: Spring Hrs.

ARMY 2020.....2

Lab (mandatory).....0

AMRY 2012.....1

HIST 2020 (mandatory).....3

JUNIOR YEAR: Fall Hrs.

ARMY 3010.....3

Lab (mandatory).....0

ARMY 3011 1

ARMY 3025 (mandatory).....1

ARMY 3070 (voluntary).....2

ARMY 3015.....1

JUNIOR YEAR: Spring Hrs.

ARMY 3020.....3

Lab (mandatory).....0

ARMY 3012.....1

ARMY 3026 (mandatory).....1

ARMY 3016 (mandatory).....1

SENIOR YEAR: Fall Hrs.

ARMY 4010.....2

Lab (mandatory).....0

ARMY 4011.....1

ARMY 3030 (voluntary).....3

ARMY 4025 (mandatory).....1

ARMY 4015 (mandatory).....1

ARMY 4050 (voluntary).....2

ARMY 3070 (voluntary).....2

SENIOR YEAR: Spring Hrs.

ARMY 4020.....2

Lab (mandatory).....0

ARMY 4012.....1

ARMY 4026 (mandatory).....1

ARMY 4016 (mandatory).....1

Minor

Army ROTC Military Science Minor

The military science minor, encompassing 22 credit hours, will prepare selected students for

commissioning and establish a sound basis for their future professional development.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

Minor Requirements

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

- ARMY 3010 - Training Management & Warfighting Functions Credits: 1
- ARMY 3020 - Applied Leadership in Small Unit Operations Credits: 3
- ARMY 3025 - Conduct of Training Credits: 1
- ARMY 3026 - Assessment of Training Credits: 1
- ARMY 3030 - Practicum in Leadership Credits: 3
- ARMY 4010 - The Army Officer Credits: 1
- ARMY 4020 - Company Grade Leadership Credits: 2
- ARMY 4015 - Staff Officer Practicum I Credits: 1
- ARMY 4016 - Staff Officer Practicum II Credits: 1
- ARMY 4025 - Principles of Training Management Credits: 1
- ARMY 4026 - Preparation of Training Credits: 1
- HIST 2020 - American Military History Credits: 3

OR

- HP 4900 Credits: 3

Total Credit Hours: 22

Department of Aerospace Studies

Department of Aerospace Studies
110 Wyoming Hall, (307) 766-2338
FAX: (307) 766-2357
Web site: www.uwyo.edu/airrotc

Professor:

ANTHONY KUSEK, Lt. Colonel, U.S. Air Force; B.S. Parks College 1995; M.A. Webster University 2007; Professor of Aerospace Studies 2019.

RICHARD LANDSVERK, Major, U.S. Air Force; B.S. Thomas Edison State College 2008; M.A. Bellevue University 2012; Professor of Aerospace Studies 2019.

SAMUEL R. SHEARER, Lt. Colonel, U.S. Air Force; B.S. University of Utah 1996; M.S. Troy State University 2003; M.A. Naval Postgraduate School 2004; Ph.D. 2013; Professor of Aerospace Studies 2016.

Air Force Reserve Officers' Training Corps (AFROTC) provides University of Wyoming students a path toward earning a commission as an officer in the United States Air Force. The currucilum provides college students a solid understanding of the leadership and military fundamentals an Air Force officer requires. AFROTC cadets supplement their normal university coursework with studies in Air Force fundamentals, history, leadership, and national security affairs. In addition, cadets have the opportunity to learn about various careers in the Air Force through their studies, guest lectures, base visits, and other military training opportunities. While enrolled in AFROTC, the Air Force provides uniforms, AFROTC textbooks, and the necessary Air Force equipment. Upon successful completion of the program and earning their bachelor's degree, cadets are commissioned as 2nd lieutenants in the U.S. Air Force.

Application and enrollment in the program is voluntary. Students should simply register for the appropriate Air Force (AIR) courses. In addition, prospective cadets will need to complete an application package upon arrival at the detachment in order to ensure minimum qualifications for military service. Contact the AFROTC Department for additional details or with any questions regarding registration. All university students, both male and female, are eligible to apply for admission in the program.

Four-Year Program

The four-year program is divided into two phases. The first two years comprise the General Military Course (GMC) consisting of one class period (1 hour) per week in the classroom and one class period (2 hours) per week in leadership laboratory. The GMC is a prerequisite for continuation in the Professional Officer Course (POC), the last two years in the program. Other prerequisites include passing the Air Force Officer Qualifying Test (AFOQT), maintaining at least a minimum grade point average of 2.0 (GMC) and 2.5 (POC), having the physical qualifications for an Air Force commission, and participating in a four-week field training session. The advanced course consists of one class period (3 hours) per week in the classroom and one class period (2 hours) per week in leadership laboratory.

Three-Year Program

Students may enroll in ROTC on a three or three and one-half year program where the GMC component is shorter. To complete the GMC requirements, the student must simultaneously enroll in AIR 1000 and AIR 2000 courses to complete all four academic terms of the GMC program. After successfully completing the GMC program and Field Training, students may enter the two-year POC program. This program is especially suitable for sophomores and junior college transfers. Students that participated in high school Junior ROTC, or have prior-enlisted service, can apply documented participation toward a portion of the GMC requirement.

Leadership Laboratory

The concept of leadership laboratory is to provide leadership training experiences which will improve a cadet's ability to perform as a USAF officer. Leadership laboratory is largely cadet planned and directed.

Field Training

Field training is a four-week program conducted in residence at an Air Force base during the summer.

While at field training, each cadet is provided subsistence, uniforms/equipment, and receives

approximately $28.00/day plus reimbursement for travel to and from the field training base.

Financial Benefits

Freshmen and Sophomores on AFROTC scholarships receive $300 and $350, per month, respectively. Juniors enrolled in the Professional Officers Course receive $450 per month and seniors $500 per month tax-free during the school year for subsistence. Uniforms, required texts and all necessary Air Force equipment are furnished by the government. In addition, all POC and scholarship cadets are allowed to travel anywhere in the continental United States on military aircraft (on a space available basis).

Special Scholarship Program

Two-, three- and four-year scholarships are offered by AFROTC on a competitive basis. These scholarships pay for a $900 book allowance per year, tuition (amount dependent on type of scholarship awarded), fees and other required expenses except room and board. The university and the State of Wyoming offer additional room and board funding to Air Force ROTC cadets (who have or have not been awarded an Air Force ROTC scholarship) and reside in university housing. High School seniors seeking a four-year scholarship should contact their high school counselors or the Recruiting Flight Commander, AFROTC Detachment 940, Dept. 3005, 1000 E. University Avenue, Laramie, WY 82071; telephone (307)766-3710; email at airforce.rotc@ uwyo.edu, early in the fall of their senior year. Sophomore or transfer students interested in competing for a scholarship should contact the Recruiting Flight Commander before the fall semester prior to junior standing.

Military Obligation

Students enrolling in the first two years of the AFROTC Program (the General Military Course) are not obligated to military service of any kind, unless on an Air Force scholarship their sophomore year. Cadets accepting an AFROTC scholarship and those entering the Professional Officer Course become

members of the inactive reserve of the United States Air Force. Upon being commissioned a Second Lieutenant in the Air Force, graduates in nonflying career fields agree to serve four years on active duty; pilot candidates agree to serve on active duty for 10 years after completion of flight training; RPA, navigator, and air battle manager candidates agree to serve on active duty for six years after completion of their respective training.

Extracurricular Activities

To familiarize students with Air Force life and social customs, the AFROTC Program offers on a voluntary basis a wide range of extracurricular activities. Civil Air Patrol gives cadets an opportunity to experience flying first hand with a trained instructor pilot. The Arnold Air Society, a national professional honorary society, is a service organization active on campus. The color guard supports various university and local activities. Visits to Air Force bases across the nation provide insight into the function of Air Force operational units. Throughout the year, AFROTC teams participate in the university intramural sports program, while cadet-sponsored social events build the spirit of comradeship inherent in military life.

Minor

Aerospace Studies Minor

Air Force ROTC offers an Aerospace Studies minor.

The 24 credit hours required to accomplish the Aerospace Studies minor will effectively compliment many majors, provide a sound basis for future professional development, and increase the career opportunities of a UW graduate.

Minor Requirements

For the Aerospace Studies minor, the student must complete the core AFROTC program plus:

- 3 credit hours in any Management (MGT) course in the current UW catalog **AND**

- 3 credit hours in one Political Science (POLS) course listed below

OR

- 6 credit hours of Political Science courses listed below.

Political Science

- POLS 1200 - Non-Western Political Cultures Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2300
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3
- POLS 4220
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4300
- POLS 4340 - International Organizations Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4870 - Seminar in International Relations Credits: 3

National Outdoor Leadership School

Administered by the Haub School of Environment and Natural Resources
Bim Kendall House

Haub School Advising Center
Phone: (307)766-5080 FAX: (307)766-5099; Web site: www.uwyo.edu/haub

The University of Wyoming (UW) and National Outdoor Leadership School (NOLS) Articulation

Agreement provides the opportunity for UW students to receive UW academic credit for NOLS courses.

When NOLS students step into the world's wild places, they bring not only their backpacks, but also more than 40 years of experience in expeditioning. NOLS founder Paul Petzoldt's idea was simple: take people into the wilderness for an extended period of time, teach them the right things, feed them well and when they walk out of the mountains, they will be skilled leaders. The core of his idea was the extended expedition, one of sufficient length that a person could learn and practice the skills over and over again. That is the backbone of every NOLS course and today the school is widely recognized as the world's leader in the extended expedition, from two weeks to twelve.

This articulation agreement covers domestic and international NOLS courses. This agreement also covers some individual shortterm courses (14 days or less; including mountaineering, rock climbing, sailing, kayaking, skiing, snowboarding, and backpacking) and the Wilderness First Responder (WFR) course.

Application/Eligibility

Current UW students, or students who have been fully or conditionally admitted to UW may receive articulated NOLS credit. Students who have already taken a NOLS course cannot receive credit retroactively (i.e. if a student embarked on a NOLS course and requested to get credit after the course was completed).

Credit and Credit Transfer

UW credit hours will be awarded in the approved courses, which require prior approval. Upon completion of the NOLS courses, provided a grade equivalent to a UW grade of C or better was obtained at NOLS. These UW course grades will be included in your UW GPA. Students who withdraw or are expelled from a NOLS course may receive an incomplete or an F for all enrolled UW credit.

Students should be aware that for internship credits to be awarded, additional academic work

requirements determined by the internship course will need to be met. Those additional requirements vary between academic programs and amount of credit desired, but may include a satisfactory evaluation from NOLS, a weekly journal, a substantial written report, and an oral presentation. Internship requirements are established prior to your participating in the NOLS course.

Academic Advising

Prior to participating in a NOLS course for UW credit, students must make an appointment with the Haub School by emailing haub.school@uwyo.edu or calling (307) 766-5080. If your academic program is outside of the Haub School, students should also meet with their assigned academic advisor to determine if these courses will count towards their major. The Haub School will approve the student's schedule, provide the appropriate course numbers, and liaise with the NOLS Registrar.

Financial Arrangements

Each UW student will pay to NOLS:

- The NOLS tuition and related fees (any changes to be advised in writing by NOLS at least three months in advance of the change coming into effect), related fees would include equipment deposit;
- Complete medical and evacuation health insurance;
- Other fees (e.g. tuition protection program, local transportation, and gear purchases), air transportation and additional living expenses will be paid directly by the student to the provider of the service.

Each UW student will pay to UW:

- The published per credit registration fees to register UW credits earned at NOLS

Financial Aid

Students enrolled in the NOLS program may apply their financial aid to the cost of the program if they are enrolled as a full-time degree seeking student at the University of Wyoming. To do so, please work with the UW Office of Scholarships and Financial Aid.

Rules, Law, and Regulations

UW students studying at NOLS will be bound by all rules, regulations and by-laws in operation at NOLS. In addition, since UW students remain enrolled as degree candidates at UW, they must also adhere to UW standards of conduct, rules and regulations. UW and NOLS both abide by the Federal Right to Privacy Act (FERPA).

Steps to Follow

- Determine the NOLS course that best fits your needs/interests and/or goals online at: www.nols.edu/courses
- Make an appointment with an advisor from the Haub School to determine the UW academic credit that best suits your degree program by e-mailing haub.school@uwyo.edu or by calling (307) 766-5080.
- Meet with your academic advisor (if your academic program is not in the Haub School).
- Apply and be admitted into NOLS.
- Prior to leaving for your NOLS course, enroll in the credit offered for the course.
- Secure your financial aid (if any) with the UW Office of Scholarships and Financial Aid.
- Attend and successfully complete the course (grade C or better).
- Grades will be posted the semester of completion of your course.

UW Credit Options for NOLS

UW recognizes the following credit options for taking a NOLS course:

Short Courses (less than 14 days)

Students may be eligible to complete 2 Hours of UW credits in the following course(s).

- ENR 4960 - Field Studies in: Credits: 1-6 **

Quarter Length Courses (14-65 days)

Students may be eligible to complete up to 9 hours in the following courses.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **

Semester & Year-long Courses (more than 65 days)

Students may be eligible to complete up to 12-24 hours in the following courses.

For year-long courses, independent study credits are also available.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3 ***

Note:

**There are additional course requirements for 4000-level NOLS credit. Syllabi and course expectations will be shared upon enrollment.
***For courses with a Wilderness First Responder component only.

Other Programs

UW Credit Options for NOLS

UW recognizes the following credit options for taking a NOLS course:

Short Courses (less than 14 days)

Students may be eligible to complete 2 Hours of UW credits in the following course(s).

- ENR 4960 - Field Studies in: Credits: 1-6 **

Quarter Length Courses (14-65 days)

Students may be eligible to complete up to 9 hours in the following courses.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **

Semester & Year-long Courses (more than 65 days)

Students may be eligible to complete up to 12-24 hours in the following courses.

For year-long courses, independent study credits are also available.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3 ***

Note:

**There are additional course requirements for 4000-level NOLS credit. Syllabi and course expectations will be shared upon enrollment.
***For courses with a Wilderness First Responder component only.

English Language Center

Cheney International Center 28

Isadora Helfgott, Vice Provost for Global Engagement
Phone: (307) 766-3630
Web site: http://www.uwyo.edu/study-iep-esl

Our Mission

The English Language Center serves the University of Wyoming community by preparing speakers of English as a Second Language for future academic and career successes. We seek to fully engage students in campus and academic life through communicative language instruction and intercultural experiences.

IEP Conditional Admission: Conditional admission is available for undergraduate applicants who are academically eligible but have low language proficiency scores. Prospective students should complete two applications for conditional admission consideration-one for the IEP and one for a UW degree program. Only one application fee is needed. Contact us directly if you are interested in this option: elc@uwyo.edu.

Other Programs

Intensive ESL Program

The Intensive ESL Program is a full-time English language study program. Students are in class 20 hours every week for one whole semester of 15 weeks. To study in the Intensive ESL Program, students must have an F-1 Student Visa. All instructors are experienced ESL professionals and qualified with a Masters Degree or higher in TESL or a relevant field of study.

Courses

Students take three classes daily, Monday through Thursday:

- Reading & Vocabulary: College vocabulary skills, reading strategies, and study skills.
- Listening & Speaking: Pronunciation/conversation, lecture listening, note-taking skills, and academic presentations.
- Integrated Skills: Grammar-focused reading, writing, and speaking class using top¬ics from academic content areas.

Information Literacy

Information Literacy

Coe Library 304
Phone: (307) 766-5313

The University Libraries offer research assistance and information literacy instruction to students and faculty. Librarians provide customized class orientations to information sources in every discipline, as well as individual research consultations. Students needing research help may call, text, email, instant message, or visit any library branch.

The University of Wyoming addresses information competencies utilizing the Framework for Information Literacy for Higher Education as approved by the Association of College & Research Libraries (ACRL) and endorsed by the American Association for Higher Education. Librarians collaborate with teaching faculty in addressing these information competencies in course assignments or lectures. Information literacy is the ability to recognize and define the need for information, then locate, evaluate, and use that information effectively and ethically.

Information literacy learning outcomes are included in University Studies First Year Seminar (FYS) and Communication (COM) courses and are similar to the critical thinking learning outcomes in the H, PN, and V courses.

The Libraries also offer credit courses to help students improve research skills and to meet the

Communications 2 requirement of the University Studies Program.

Learning Outcomes

We expect that students completing LBRY courses will become knowledgeable consumers of information through learning how to:

- Recognize and define the need for information;
- Efficiently locate information in the library or on the Internet;
- Evaluate the quality of information;
- Utilize information effectively, ethically, and legally.

Librarians

DAVID D. KRUGER, B.S. South Dakota State University 1991; B.S.Ed. Minot State University 1994; M.A. Kansas State University 1996; M.L.S. University of Missouri at Columbia 1998; Librarian 2016, 1998.

Associate Librarians

STEPHEN C. BOSS, B.M. Simpson College 1983; B.A. 1984; M.L.S. University of Denver 1985; M.A. 1986; Associate Librarian 2008, 2002.

KAIJSA J. CALKINS, B.A. University of Washington, Bothell 2001, M.L.I.S. University of Washington, Seattle 2004; Associate Librarian 2012, 2006.

JANICE GROVER, B.A. University of Wyoming 2005; M.L.S. Emporia State University 2009; M.A. University of Wyoming 2017; Associate Librarian 2021.

Assistant Librarians

SAMANTHA PETER, B.A. University of Wyoming 2016; M.S.I.S. University of Texas at Austin 2018; Assistant Librarian 2018.

JESSICA RARDIN, B.A. Beloit College 2013; M.L.I.S. University of Wisconsin-Milwaukee 2021; Assistant Librarian 2021.

SHANNON SMITH, B.A. Southern Oregon University 2007; M.L.I.S University of Washington 2019; Assistant Librarian 2023.

Interdisciplinary Programs

School of Graduate Education Interdisciplinary Programs

Biomedical Sciences, Ph.D. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website http://www.uwyo.edu/biomedphd/
Email: bms@uwyo.edu

Program Director: Sreejayan Nair, Ph.D.

Degree Offered

Ph.D. in Biomedical Sciences

Biomedical sciences is the study of human biological processes; the complex interactions between physiological, genetic and environmental factors that influence disease and health. It spans the spectrum from fundamental discovery to innovation and application.

Areas of focus may include but not limited to cardiac health, nutrition, reproductive biology, toxicology, diagnostic & imaging and medical engineering.

The PhD program in biomedical sciences is designed to position graduates for long-term competitive success in the rapidly changing and multifaceted health-related arena in the 21st century. It is a comprehensive, interdisciplinary program, making connections between various disciplines to gain new insights, discover and apply new knowledge, and promote self-directed, life-long learning.

Biomedical Sciences is a research & discovery focused program balancing depth and breadth of content knowledge with "enabling" skills including problem solving, innovation, entrepreneurship, communication and leadership.

Program Specific Admission Requirements:

1. Minimum requirements. Applicants who do not meet the minimum requirements may be conditionally accepted at the discretion of the BMS Admission Committee. Please submit the application packet comprising the following documents for pre-admission screening:

a. Faculty sponsor. Contact potential biomedical sciences graduate program faculty sponsor in your area of interest prior to submitting an application. NOTE: a letter indicating the sponsorship by a faculty is strongly recommended as the program does not have a sufficient number of graduate assistantships to support all students.

b. Official academic transcripts. Successful completion of a bachelor's degree from an accredited institution with one or more semesters of biology, physics, anatomy, physiology, chemistry, biochemistry/molecular biology, math are recommended. All applicants should have at least a 3.0 cumulative GPA (scale of 4.0). While a master's degree is not required for admissions into the biomedical sciences Ph.D. program, a master's degree with a strong background in the research area of focus is a plus.

c. TOEFL/IELTS/Duolingo: The minimum acceptable scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS respectively. An applicant whose native language is English and is a citizen of one of

the following countries or has earned a university level degree from a school in one of the following countries may be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/ cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency, until further notice.

d. Three letters of recommendation.

e. Statement of research interests and career objectives. A letter stating research & career interests and goals, prior research experience and outcomes, reasons for interest in BMS program. Include your contact information in the letter.

f. Current professional resume

2. Application Process. The BMS admissions committee reviews the completed application.

a. Contact faculty in your area of interest and obtain their endorsement. Faculty may choose to interview the candidate on-campus or via zoom.

b. Submit your application materials (pdf files of cover letter/statement of purpose, letter of sponsorship from the faculty, three letters of reference, transcripts, TOEFL scores to the admissions office via the University's admission portal.

c. To ensure full application review for fall semester admission, applications should be received by **February 15**.

d. Review by BMS Admissions Committee.

e. Forward application packet with BMS recommendation to the faculty and host department.

f. Notification of decision to applicant by **May 1**.

Program of Study:

Rationale: The program of study is designed according to student learning goals and research opportunities. It blends depth and breadth of

preparation by providing broad core requirements with electives promoting specialization in a "parent" discipline. This is recognized on program documentation by a Doctorate in Biomedical Sciences/"specialization" area. For example, Doctorate in Biomedical Sciences/Reproductive Biology.

Student Learning Outcomes: The BMS program provides a unique array of formal courses and informal discovery experiences focused on ensuring aptitudes, behaviors, and skills necessary for leadership and competitive success in the biomedical science arena.

Although the foundation enabling innovative, independent thinking and knowledge discovery is deep discipline knowledge, the BMS program is also designed to promote student competency in information assessment, synthesis and integration, communication and translation to the broader community, teamwork, leadership, and project management.

The BMS program trains graduates to be competent, skilled experimentalists, problem solvers, critical and independent thinkers, expert in their field, with both depth and breadth of knowledge.

In addition, the program aims to instill characteristics that are essential to long-term professional success, preparing scientists who are effective and dedicated mentors and teachers, organized administrators, exemplars of high ethical standards, and effective collaborators.

Upon completion of the program, graduates will demonstrate:

- Independent, critical thinking skills
- Ability to identify appropriate biographical resources
- Knowledge of recent advances in discipline and related areas
- Understanding of a broad spectrum of research methodologies and their applications
- Ability to critically analyze research findings
- Ability to design and independently execute research
- Ability to use appropriate information technology to record, manage, and disseminate information
- Understanding of issues related to researcher and subject rights

- Motivation and aptitude needed to acquire knowledge
- Communication skills that are appropriate for a range of audiences and purposes
- Ability to construct and articulate arguments to a wide range of audiences
- Ability to effectively support the acquisition of knowledge by others when teaching or mentoring students
- Willingness to assume responsibility for their work
- Ability to design and teach undergraduate or graduate courses
- Ability to publish single/first authored papers in peer-reviewed journals

Program in Ecology and Evolution, Ph.D. Interdisciplinary Program

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/pie/

Email: ecology@uwyo.edu

Program Director: Melanie Murphy, Ph.D.

Degree Offered

Ph.D. in Ecology and Evolution

The Program in Ecology and Evolution (PiE^2) prepares doctoral students to lead the disciplines

of ecology and evolution during the coming decades. The program is grounded in the natural history of organisms in their environment, but incorporates tools and perspectives from across the biological, physical, mathematical, computational, and earth sciences. Students develop conceptual, historical, and philosophical perspectives spanning the entire range of subdisciplines in ecology and evolution, while receiving advanced training in the subdiscipline of their individual interest.

The program fosters long-term career development by exploring the linkages of ecology and evolution with other disciplines, and by scanning the ecological horizon for emerging questions, concepts, and approaches that will shape the field in years to come.

Faculty members from several departments and colleges participate in the Program in Ecology and Evolution. Their interests span the full range of topics covered in the field of ecology and evolution, and students in the program reflect this diversity.

Program Specific Admission Requirements:

Only students seeking a doctoral degree will be admitted into the program. Minimum criteria for admission to the Program in Ecology and Evolution are:

- Minimum undergraduate GPA of 3.000
- Agreement by a member of the PiE^2 faculty to sponsor the student, or to co-sponsor the student together with a PiE^2 affiliate
- Admission to a home department at the University of Wyoming

All applications to the program will be reviewed by the Graduate Affairs Committee, which has authority on admissions. Students applying to the program who lack a master's degree must show exceptional promise and commitment (e.g., through undergraduate or post-graduate research experiences, peer-reviewed publications, and/or success in competing for research fellowships). Such students are encouraged to consult with their prospective

adviser on whether to apply directly to PiE^2 or to master's programs in individual home departments of PiE^2 faculty.

Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the program. Transfer is not pro forma. Transfer applications are subject to the same criteria as for entering students, and admission to the program for transfer students must be approved by the Graduate Affairs Committee.

Program Specific Degree Requirements:

Advisory Committee:

Before the end of the second semester of study, the student should nominate a five-member advisory committee to the Office of the Registrar. At least three members of the committee, including the committee chair (usually the student's adviser), will be members of the PiE^2 faculty. One other member, who will serve as Graduate Faculty representative, must be from outside the home department of the major adviser, although (s)he can be a faculty member in a department that participates in the program. The committee will advise the student on his/her program of graduate study, execute and evaluate the student's preliminary examination, evaluate the student's dissertation proposal and dissertation, and conduct the student's dissertation defense.

Program of Study:

All students are required to take ECOL 5100 or equivalent. This course should be taken during the first year of residency. Exceptions or substitutions of these requirements are subject to approval by the graduate affairs committee.

The program of study must include at least 6 credit hours aimed at developing a tool skill, which except for rare cases shall be in the quantitative/analytical domain (e.g., statistics, modeling, GIS, remote sensing, bioinformatics). Courses relating to research tools should be

taken early in the student's residency to ensure that they can be used in thesis research and advanced studies. Specific coursework and tool-skill development for the student's program of study will be developed in consultation with and subject to approval by the student's advisory committee.

Admission to Candidacy:

Admission to candidacy for the Ph.D. requires two steps: 1) providing evidence that the student is prepared to identify a research question, design an approach for investigating that question, and a plan for executing the approach, all in the format of an NSF-style research proposal, and 2) illustrating adequate proficiency in the subject matter of ecology and evolution through a process involving both written and oral exams.

Proposal:

Students must submit a NSF-style proposal to their committee outlining their project, typically by the end of the fourth semester. Each committee member will provide feedback to the student on the proposed research and indicate approval of the proposal or request revision. The proposal must be approved by all committee members prior to starting the preliminary exams.

While this proposal should be a plan for actual dissertation research, unforeseen circumstances may require altering the student's dissertation work after the proposal has been approved by the committee. In the case of a major alteration, the student should reformulate a research plan and submit it to the committee in writing for committee approval.

Preliminary Examination:

Passing the preliminary exam is the official admission to candidacy.

Written portion of the preliminary exam. The student will take the written exam portion of the preliminary exam no fewer than two weeks following approval of the research proposal. The goal of this exam is to test breadth of knowledge in ecology and evolution. The design of this exam will be coordinated by the

graduate committee under the leadership of the adviser. Each written exam will cover the following topics:

- Ecological topics ranging from organismal/evolutionary to ecosystem-level perspectives, integrating concepts and perspectives from across the discipline, over a wide range of spatial and temporal scales.
- The philosophical and historical development of ecology and evolution.
- The conceptual background of the student's area of specialization.

The exam will consist of four to six questions developed collectively by the committee and organized by the student's major professor. The exam will be open book; however, the answers will be solely the work of the student. Answers should be fully cited and collectively should be no longer than 30 pages double-spaced exclusive of references cited. Students will have one full week (seven days) to complete the exam. Committee members will indicate pass/fail within one week following completion of written exams. Four of five passing votes are required.

Oral Portion of the Preliminary Exam. No sooner than two weeks after successfully passing the written exam, the student may proceed to an oral exam administered by his/her graduate committee. Oral exams center around three goals from which questions will be derived:

- To verify that the student is prepared, conceptually and methodologically, to carry out successful dissertation research.
- To evaluate the student's ability to conceptualize specific questions in a broad, integrative context.
- To evaluate the student's ability to think spontaneously and creatively and to articulate responses about unexpected or novel questions.

The advisory committee will discuss and organize specific questions based on these goals in a short session at the beginning of the exam period before admitting the student to the examination room and starting the exam. Following the exam each committee member will provide non-binding paper votes of pass/ fail for each of the three goals of the oral exam. Following discussion of the student's performance, committee members will each assign a grade of pass/fail for the overall exam. Four of five committee members must vote for passing the overall oral exam.

Students whose performance is unsatisfactory will be given one opportunity for retaking the oral examination. This retake will occur no later than the academic-year semester following the first examination.

Public Seminars:

Students are required to give two oral presentations on their research. The purposes of these presentations are to provide the student with practice in oral presentations and to keep the PiE^2 community informed of the student's progress. The first will describe the student's dissertation research proposal. This presentation will be given before the student submits his/her thesis proposal. The second presentation will summarize the student's completed dissertation research, and will normally be given the same semester as the student's dissertation defense. Under extraordinary circumstances (subject to approval by the Graduate Affairs Committee), this presentation may be given at an earlier time. These presentations must be open to the public, and may comprise part of a departmental or Program in Ecology and Evolution seminar or brown-bag series.

Hydrologic Sciences (WRESE), Ph.D. Interdisciplinary Program

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/wrese

E-mail: wrese@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Degree Offered

Ph.D. in Hydrologic Sciences

The Water Resources/Environmental Science and Engineering (WRESE) program facilitates Ph.D. level course offerings in water-related disciplines, and coordinates offerings of these courses. Furthermore, the WRESE program serves as a focal-point for water-related graduate research and education at the University of Wyoming.

This interdisciplinary degree program encourages cross-department and inter-college coordination for research and education in hydrology and water resources.

The WRESE Program grants a PhD in Hydrological Sciences.

Program Specific Admission Requirements:

Ph.D. in Hydrologic Sciences

The WRESE Program only admits students seeking a doctoral degree.

Those interested in graduate study in this program, are encouraged to contact the WRESE program (wrese@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit an application to the program via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html). Prospective students applying to the WRESE program must satisfy the minimum criteria for admission of their advisor's home department (i.e., number of reference letters required; minimum GRE scores, if requested; other supporting documents, if requested; etc.). Similarly, applicants should adhere to the submission deadline indicated by their advisor's home department.

Minimum criteria for admission to the WRESE Program are:

- Minimum undergraduate GPA of 3.000
- Agreement by a faculty member affiliated with the WRESE program to sponsor the student

- Admission to a home department at the University of Wyoming

Typically, students admitted into the program will have previously obtained a Masters-level degree. Under certain circumstance, students may be admitted directly after an undergraduate degree if they show exceptional promise and commitment. Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the WRESE program.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Degree Requirements:

Students in the WRESE Program are expected to create their graduate committee within the first year of study. The committee should be composed of three faculty members within the PhD program in Hydrology and 2 should be from the student's departmental home. A committee shall be composed of no fewer than 5 members, of which only one may be from outside the University. Additional committee members may be added to support the student's learning and objectives on the discretion of the committee and WRESE Program chair.

Program of Study:

Students enrolled in the Program should complete their Program of Study within the first 3 semesters. The student shall work with his/her research advisor and committee to determine the appropriate course of study relative to the student's research agenda. Students are expected to complete a rigorous course of study in quantitative hydrological sciences. Minimum requirements for the PhD include:

- Coursework credits: 42 hours (26 can be from an MS)
- Total credits: 72 hours
- Math expectations: students are encouraged to pursue a high level of math proficiency, with typical students progressing through differential equations. Individual math expectations will be determined by the committee and program chair.

A dissertation proposal should be approved by the end of the 4th semester. Students shall submit their proposal to their committee for review two weeks prior to a holding a committee meeting where the student (a) presents their proposal in a public presentation and (b) defends the proposal to the committee in a closed meeting. After the meeting, the student shall amend the proposal as required by the committee within a timely manner.

Admission to Candidacy / Preliminary Examination:

Advance to candidacy is attained by passing preliminary exams within 3 years of initiating a degree program. Students should complete their preliminary exams as close to the end of their primary coursework as possible. Preliminary exams consist of two parts. The first part is a written examination wherein committee members shall submit written questions to the student. Once the student has passed their written exams, they will be administered an oral examination.

The written exam shall be administered by the student's research adviser, who will coordinate the questions so as to obtain a comprehensive review of the student's knowledge of the materials the student has learned in the classroom and needs to complete his/her research topic. Written questions should cover both conceptual and theoretical underpinnings in hydrological sciences and technical questions related to the student's research area.

The written exam will consist of a series of questions as decided upon by the committee and should take no more than two weeks to complete.

Each committee member shall grade their portion of the exam as pass/fail. The student shall be viewed as passing the written exam if no more than one person grades their portion of the exam as failing.

The oral examination will be held no sooner than two weeks after the written exams, and only after the

student has passed their written examinations. The oral exam should be no less than 90 minutes long and no longer than 3 hours.

Following the exam, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Dissertation:

The student will prepare a dissertation and make the document available to the committee at least two weeks in advance of an oral defense of the document. The oral defense must be at least 15 weeks after the student has been advanced to candidacy. Students shall present a public defense to the university community that is expected to be approximately 45 minutes long, with a public question-and-answer period after the presentation. If the committee determines that the student has presented a suitable oral presentation of his/her research findings, a closed session meeting will be held in which the student defends their research to the committee. At the conclusion of the defense, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Other information:

Students in the WRESE Program may participate from any college, with the expectation that their program of study and dissertation will focus on quantitative issues of hydrology and water resources. The Program welcomes academic diversity, and students in WRESE have entered into the Program from a wide range of academic backgrounds and have hailed from numerous home departments, including Ecosystem Science and Management, Civil and Architectural Engineering, Botany, Zoology and Physiology, and Geology and Geophysics.

Molecular and Cellular Life Sciences, Ph.D.

InterdisciplinaryProgram

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/mcls/
Email: mcls@uwyo.edu

Program Director: Daniel Levy, Ph.D.

Degree Offered

Ph.D. in Molecular and Cellular Life Sciences

This interdisciplinary program with more than 30 faculty participants spans a wide range of research topics, such as:

Biotechnology-bioengineering, biomaterials, pharmacology, cell biology and signaling, genetics and development, genomics, proteomics, computational biology, microbiology and infectious disease, structural biology, and biophysics.

Coursework focuses on core courses in biochemistry and molecular biology, with electives that include such diverse courses as:

Topics in Genomics, Biophysics, Microbial Physiology and Metabolism, Cell and Developmental Genetics, Mass Spectrometry and Analytical Chemistry, Biomedical Engineering, Mammalian Endocrinology, Cell Culture and Virology, Introduction to Bioinformatics, Protein Structure and Function, Microbial Genetics, Computational Biology, and Quantitative Microscopy.

Program Specific Admission Requirements:

1. Applicants should apply through the online graduate application link. This process requires

uploading a statement of purpose, a CV, academic transcripts, and test scores. The statement of purpose should include a brief narrative that describes the applicant's motivation to pursue graduate studies in the life sciences, relevant experiences, and specific reasons for applying to the MCLS program at the University of Wyoming. The program does not adhere to strict test score minimums, however, for international applicants minimum suggested scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS, respectively. An applicant whose native language is English and is a citizen of one of the following countries or has earned a university level degree from a school in one of the following countries will be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency until further notice. More information for international applicants can be found on the University of Wyoming graduate admissions website. The application also requests that three reference letters be submitted in support of the candidate's application. Completed applications are due on January 1.

2. The MCLS admissions committee reviews completed applications starting in early January of each application cycle. Promising applications are selected based on research experience, grades, test scores, and reference letters. The most compelling statements of purpose convincingly describe why the applicant is interested in pursuing graduate studies in the life sciences, detailing relevant past research experience and how it has prepared the student for PhD studies. Reference letters that include specific details and anecdotes about the applicant are most useful. The committee generally looks for grades of B or better in life science and chemistry courses, although lower grades can be balanced by a sufficiently strong research background. Successful applicants will be notified of admission decisions by May 1 at the latest, although the majority of decisions will be made by March 15.

3. Following the initial reviews, selected applicants are invited for a Zoom interview. Applicants will be

provided with a primary research paper that they should read in preparation for the interview.

4. Zoom interviews are conducted with at least two members of the admissions committee. Applicants are asked a variety of questions, including why they are interested in the MCLS program, how their previous research experience has prepared them for PhD studies, their perceived strengths and weaknesses as a scientist, and future career goals. The interviewers also ask questions about the research paper and more general molecular biology questions to determine if the applicants have a sufficiently strong background to succeed in the MCLS program.

5. Shortly after the interview sessions, the MCLS admissions committee discusses the results of the Zoom interviews and ranks applicants for offers of admission, conditional upon approval by the Office of Admissions.

Program Specific Degree Requirements:

MCLS doctoral students must fulfill the minimum requirements outlined by the university. In addition, students must obtain a high level of proficiency in the core foundations of the molecular and cellular life sciences through required courses in biochemistry/ molecular biology, scientific literature analysis proficiency, and the MCLS cornerstone course. Because of the broad range of research interests pursued by MCLS faculty and students, considerable flexibility will be exercised regarding the specific nature of the graduate level elective courses that students may take. Students must successfully complete four eight-week rotations in MCLS laboratories of their choice during the first year. Additionally, students must pass a comprehensive assessment exam at the end of the first year. Near the end of their second year in the program, students will undertake a qualifying examination in order to be formally admitted to graduate degree candidacy. This exam will have both written and oral components and will cover areas of science that are relevant to the students' proposed research. Annual meetings with a research-specific dissertation committee will facilitate and evaluate the research progress of MCLS students beginning in the second year. Students must also attend weekly outside seminars on topics in the molecular life

sciences for the durations of their studies. For more information, please see the program's Website at: http://www.uwyo.edu/MCLS/.

Neuroscience, Ph.D. InterdisciplinaryProgram

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/neuroscience/
Email: neuroscience@uwyo.edu

Program Director: Kara Pratt, Ph.D.

Degree Offered

Ph.D. in Neuroscience

The Graduate Neuroscience Program offers training leading to the Ph.D. degree in Neuroscience. The Neuroscience Program emphasizes systems and integrative approaches, and our goal is to provide the students with the necessary background to be broadly trained research neuroscientists and to carry out independent research in neuroscience. The Neuroscience Program emphasizes continuing interaction with faculty from several departments and we have a low student to faculty ratio. Advisors spend considerable time supervising and training each doctoral student. The educational philosophy of the Neuroscience Program is to encourage a problem-oriented rather than a strict discipline-bound approach to research. You will emerge from this program with the scientific and experimental training needed to comprehensively address a very wide range of research questions using a variety of techniques and analytic tools.

The Graduate Neuroscience Program is designed to enable graduate students to acquire competence in the various disciplines necessary for research and teaching careers in neuroscience. The current interests of the Neuroscience faculty include sensory neurophysiology, behavioral neuropharmacology,

neurodevelopment, neurodegeneration, and synaptic plasticity.

Students and faculty have access to outstanding resources established by NIH Neuroscience and Sensory Biology Core grants. The Microscopy Core houses both light (Zeiss laser scanning, fluorescent) and electron (Transmission and

Scanning) microscopes. Resources needed to conduct research ranging from molecular, cellular circuit level to behavior are readily available within the Neuroscience Center.

Doctoral Program Admission Minimum Requirements:

GRE: Accepted but not required;

GPA: 3.000 (4.000 scale);

Three favorable letters of recommendation;

Bachelor's degree in a biological science from an accredited institution;

Statement of research interests and career objectives. We recommend that students study the Neuroscience faculty web sites and contact faculty regarding openings and shared research interests.

You will be best prepared for our program if you have successfully completed courses in neuroscience, chemistry, biology, physiology, and cell/molecular biology. Students may be admitted with deficiencies in some of the areas if they are strong in many or all others. If so, the student's advisory committee will determine what additional work is necessary during the first year to correct any deficiency.

Program Specific Degree Requirements:

All doctoral Neuroscience students are required to complete a program of core classwork that must include the required courses Introduction to Neuroscience (NEUR 5280) and Structure and Function of the Nervous System (NEUR 5100). Students are required to take one course in Statistics

(e.g. STAT 5050, STAT 5210) and the course that meets this requirement will be arranged with the student's committee. The statistics requirement must be met by the end of the second year. The Neuroscience Program is a research-oriented program and students are expected to take a minimum of 2 to 3 credit hours of research per semester. Students are also expected to enroll in an on-going Seminar in Neuroscience. The Neuroscience Seminar, which meets weekly and is attended by students and faculty members, provides an opportunity for intellectual and social exchange, as well as for the development of professional skills in critical thinking. The topic for seminar and the faculty member directing the seminar changes each semester. The remainder of the coursework for the doctor of philosophy degree is selected from designated courses in Neuroscience, physiology, pharmacology, and molecular biology. A grade of B or better is required for all Neuroscience courses.

A student is expected to have a graduate adviser at all times. The faculty adviser must be a participating member of the Neuroscience faculty. The adviser is responsible for directing the student's research and academic coursework. During the second year, the student will have an advisory committee. The advisory committee will consist of at least three neuroscience faculty members and an outside member. Normally, the student's adviser will chair the committee and help identify members of the committee who best match the student's area of interest. The role of the advisory committee is to oversee all aspects of the student's education after the first year.

In the student's second or third year, the advisory committee will set and evaluate the student's qualifying examination. After successful completion of the preliminary examination the student will profess to Ph.D. candidate status.

The dissertation is the single most important component of the graduate program. It reports the results and significance of the student's research. In addition to the written dissertation, the doctoral candidate will deliver a formal seminar based on their research. The seminar will be followed by an examination by the student's advisory committee.

Water Resources (WARE), M.S.

Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/wrese/ware/
Email: ware@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Departments and Degrees Involved in WARE

Several academic departments throughout the university work together to provide an interdisciplinary Master's degree program in water resources. The Masters' degree offered through these affiliations is awarded as a major with each of the sponsoring departments graduate programs and is designated on the graduate transcript as: M.S. or M.A. in (Program Name)/Water Resources. This formal recognition of a water resources degree emphasis certifies that the student has completed an in-depth multidisciplinary course program in the broad area of water resources. The following is a list of participating departments:

- Agricultural Economics/Water Resources
- Botany/Water Resources
- Civil Engineering/Water Resources
- Economics/Water Resources
- Entomology/Water Resources
- Geology/Water Resource
- Geophysics/Water Resources
- Rangeland Ecology And Watershed Management / Water Resources
- Soil Science/Water Resources
- Zoology And Physiology/Water Resources

The WARE program is an interdisciplinary MS "slash" program. Students who enroll in the program are pursuing graduate studies in a range of departments at the University of Wyoming. WARE is a dual degree program that encourages students to pursue interdisciplinary academic options while completing their MS research.

The educational underpinnings of this program include the following:

- The purpose of the program is to develop cross-disciplinary education and perspectives regarding water resources.
- Training is to be consistent with the rigor expected of professionals with water resource expertise.
- The cross-disciplinary major program is flexible to meet the individual professional objectives of students.

Primary responsibility of student guidance and graduate program formulation resides with the sponsoring department and sponsoring major professor. Once accepted to a "home" department, each candidate will form a graduate committee that contains at least one member drawn from the Hydrologic Science Program faculty. The faculty representative on the candidates graduate committee shall aid in formulating course program design, academic performance criteria, and research objectives throughout the candidates' tenure in the program.

Graduate

Agricultural Economics/Water Resources, M.S. Interdisiplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Agricultural Economics M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Agricultural Economics, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements as outlined Water Resources, M.S.

Please note, the Water Resources, M.S. is not a stand-alone degree.

Biomedical Sciences, Ph.D.

The Biomedical Sciences graduate program seeks to provide the students with a unique research training environment to integrate a variety of scientific approaches to address complex health-related challenges.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Biomedical Sciences, Ph.D. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website http://www.uwyo.edu/biomedphd/
Email: bms@uwyo.edu

Program Director: Sreejayan Nair, Ph.D.

Degree Offered

Ph.D. in Biomedical Sciences

Biomedical sciences is the study of human biological processes; the complex interactions between physiological, genetic and environmental factors that influence disease and health. It spans the spectrum from fundamental discovery to innovation and application.

Areas of focus may include but not limited to cardiac health, nutrition, reproductive biology, toxicology, diagnostic & imaging and medical engineering.

The PhD program in biomedical sciences is designed to position graduates for long-term competitive success in the rapidly changing and multifaceted health-related arena in the 21st century. It is a comprehensive, interdisciplinary program, making connections between various disciplines to gain new insights, discover and apply new knowledge, and promote self-directed, life-long learning.

Biomedical Sciences is a research & discovery focused program balancing depth and breadth of content knowledge with "enabling" skills including problem solving, innovation, entrepreneurship, communication and leadership.

Program Specific Admission Requirements:

1. Minimum requirements. Applicants who do not meet the minimum requirements may be conditionally accepted at the discretion of the BMS Admission Committee. Please submit the application packet comprising the following documents for pre-admission screening:

a. Faculty sponsor. Contact potential biomedical sciences graduate program faculty sponsor in your area of interest prior to submitting an application. NOTE: a letter indicating the sponsorship by a faculty is strongly recommended as the program does not have a sufficient number of graduate assistantships to support all students.

b. Official academic transcripts. Successful completion of a bachelor's degree from an accredited institution with one or more semesters of biology, physics, anatomy, physiology, chemistry, biochemistry/molecular biology, math are recommended. All applicants should have at least a 3.0 cumulative GPA (scale of 4.0). While a master's degree is not required for admissions into the biomedical sciences Ph.D. program, a master's

degree with a strong background in the research area of focus is a plus.

c. TOEFL/IELTS/Duolingo: The minimum acceptable scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS respectively. An applicant whose native language is English and is a citizen of one of the following countries or has earned a university level degree from a school in one of the following countries may be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/ cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency, until further notice.

d. Three letters of recommendation.

e. Statement of research interests and career objectives. A letter stating research & career interests and goals, prior research experience and outcomes, reasons for interest in BMS program. Include your contact information in the letter.

f. Current professional resume

2. Application Process. The BMS admissions committee reviews the completed application.

a. Contact faculty in your area of interest and obtain their endorsement. Faculty may choose to interview the candidate on-campus or via zoom.

b. Submit your application materials (pdf files of cover letter/statement of purpose, letter of sponsorship from the faculty, three letters of reference, transcripts, TOEFL scores to the admissions office via the University's admission portal.

c. To ensure full application review for fall semester admission, applications should be received by **February 15**.

d. Review by BMS Admissions Committee.

e. Forward application packet with BMS recommendation to the faculty and host department.

f. Notification of decision to applicant by **May 1**.

Program of Study:

Rationale: The program of study is designed according to student learning goals and research opportunities. It blends depth and breadth of preparation by providing broad core requirements with electives promoting specialization in a "parent" discipline. This is recognized on program documentation by a Doctorate in Biomedical Sciences/"specialization" area. For example, Doctorate in Biomedical Sciences/Reproductive Biology.

Student Learning Outcomes: The BMS program provides a unique array of formal courses and informal discovery experiences focused on ensuring aptitudes, behaviors and skills necessary for leadership and competitive success in the biomedical science arena.

Although the foundation enabling innovative, independent thinking and knowledge discovery is deep discipline knowledge, the BMS program is also designed to promote student competency in information assessment, synthesis and integration, communication and translation to the broader community, teamwork, leadership and project management.

The BMS program trains graduates to be competent, skilled experimentalists, problem solvers, critical and independent thinkers, expert in their field, with both depth and breadth of knowledge.

In addition, the program aims to instill characteristics that are essential to long-term professional success, preparing scientists who are effective and dedicated mentors and teachers, organized administrators, exemplars of high ethical standards, and effective collaborators. Upon completion of the program, graduates will demonstrate:

- Independent, critical thinking skills
- Ability to identify appropriate biographical resources
- Knowledge of recent advances in discipline and related areas
- Understanding of a broad spectrum of research methodologies and their applications
- Ability to critically analyze research findings
- Ability to design and independently execute research

- Ability to use appropriate information technology to record, manage, and disseminate information
- Understanding of issues related to researcher and subject rights
- Motivation and aptitude needed to acquire knowledge
- Communication skills that are appropriate for a range of audiences and purposes
- Ability to construct and articulate arguments to a wide range of audiences
- Ability to effectively support the acquisition of knowledge by others when teaching or mentoring students
- Willingness to assume responsibility for their work
- Ability to design and teach undergraduate or graduate courses
- Ability to publish single/first authored papers in peer-reviewed journals

Additional Course Information:

The BMS Ph.D. program requires a minimum of 72 hours of credit from UW or another approved university. At least 42 hours of the 72 hours minimum must be earned in formal classroom courses. Twelve hours of credit at 4000-level coursework are permitted towards this. This 72-hour requirement may include graduate credits earned while working toward the M.S. degree in the same area, but in that case, at least 42 hours of the 72 must be earned through formal coursework. Additional credits toward the 72-hour requirement will comprise mainly or entirely of Dissertation Research (BMS 5980) credits. As indicated above, to be considered a full-time graduate student at the University of Wyoming students must be signed up for 9 credit hours each semester.

Required Coursework (8 Credits):

- BMS 5880 - Biomedical Sciences Research Ethics Credits: 2
- BMS 5985 - Seminar Credits: 1 in Biomedical Sciences Credits: 3 (1 credit each year for at least three years)
- Graduate-Level Physiology Course Credits :3

Three courses from the following list (9 credits):

- MOLB 5600 - Advanced Biochemistry Credits: 3
- MOLB 5670 - Advanced Molecular Cell Biology Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3

Recommended Program Electives (12 Credits)

- CHE 5100 - Biochemical Engineering Credits: 3
- FCSC 5145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 5147 - Nutrition and Weight Control Credits: 3
- KIN 5047 - Biomechanics in Sports Credits: 3
- KIN 5062 - Applied Concepts in Human Aging Credits: 3
- PATB 5510 - Introductory Virology Credits: 3

Concentration Area (14 credits):

Research/Dissertation (remaining):

Students are expected to conduct research leading to a publishable dissertation. While publication expectations are determined largely by the major advisor, it is required that one manuscript be submitted to a peer-reviewed journal prior to the defense. Students will need to demonstrate lead authorship on articles published in their dissertation. (6 credits from MS if applicable).

Additional Courses:

- BMS 5920 - Continuing Registration: On Campus Credits: 1-12
- BMS 5940 - Continuing Registration: Off Campus Credits: 1-24

- BMS 5980 - Dissertation Research Credits: 1-24

Botany/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Botany M.S. Requirements:

Students will complete all requirements of M.S. core requirements in their major degree as outlined Botany, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

The Water Resources M.S. is not a stand-alone degree.

Civil Engineering/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Civil Engineering M.S. Requirements:

Students will complete all requirements of M.S. core requirements in their major degree as outlined Civil Engineering, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Ecology and Evolution, Ph.D.

The Program in Ecology and Evolution (PiE^2) provides you with long-term career development by exploring the linkages of ecology and evolution with other disciplines, and by reaching for emerging questions, concepts, and approaches that will shape the future of the field.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Program in Ecology & Evolution, Ph.D.

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/pie/
Email: ecology@uwyo.edu

Program Director: Melanie Murphy, Ph.D.

Degree Offered

Ph.D. in Ecology & Evolution

The Program in Ecology & Evolution (PiE^2) prepares doctoral students to lead the discipline of ecology & evolution during the coming decades. The program is grounded in the natural history of organisms in their environment, but incorporates tools and perspectives from across the biological, physical, mathematical, computational, and earth sciences. Students develop conceptual, historical, and philosophical perspectives spanning the entire range of subdisciplines in ecology & evolution, while receiving advanced training in the subdiscipline of their individual interest.

The program fosters long-term career development by exploring the linkages of ecology & evolution & nbsp;with other disciplines, and by scanning the ecological horizon for emerging questions, concepts, and approaches that will shape the field in years to come.

Faculty members from several departments and colleges participate in the Program in Ecology & Evolution. Their interests span the full range of topics covered in the field of ecology & evolution, and students in the program reflect this diversity.

Program Specific Admission Requirements:

Only students seeking a doctoral degree will be admitted into the program. Minimum criteria for admission to the Program in Ecology & Evolution are:

- Minimum undergraduate GPA of 3.000
- Agreement by a member of the PiE^2 faculty to sponsor the student, or to co-sponsor the student together with a PiE^2 affiliate
- Admission to a home department at the University of Wyoming

All applications to the program will be reviewed by the Graduate Affairs Committee, which has authority on admissions. Students applying to the program who lack a master's degree must show exceptional promise and commitment (e.g., through undergraduate or post-graduate research experiences, peer-reviewed publications, and/or success in competing for research fellowships). Such students

are encouraged to consult with their prospective adviser on whether to apply directly to PiE^2 or to master's programs in individual home departments of PiE^2 faculty.

Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the program. Transfer is not pro forma. Transfer applications are subject to the same criteria as for entering students, and admission to the program for transfer students must be approved by the Graduate Affairs Committee.

Program Specific Degree Requirements:

Advisory Committee

Before the end of the second semester of study, the student should nominate a five-member advisory committee to the Office of the Registrar. At least three members of the committee, including the committee chair (usually the student's adviser), will be members of the PiE^2 faculty. One other member, who will serve as Graduate Faculty representative, must be from outside the home department of the major adviser, although (s)he can be a faculty member in a department that participates in the program. The committee will advise the student on his/her program of graduate study, execute and evaluate the student's preliminary examination, evaluate the student's dissertation proposal and dissertation, and conduct the student's dissertation defense.

Program of Study

All students are required to take ECOL 5100 or equivalent. This course should be taken during the first year of residency. Exceptions or substitutions of these requirements are subject to approval by the graduate affairs committee.

The program of study must include at least 6 credit hours aimed at developing a tool skill, which except for rare cases shall be in the quantitative/analytical domain (e.g., statistics, modeling, GIS, remote sensing, bioinformatics). Courses relating to research tools should be taken early in the student's residency

to ensure that they can be used in thesis research and advanced studies. Specific coursework and tool-skill development for the student's program of study will be developed in consultation with and subject to approval by the student's advisory committee.

Admission to Candidacy

Admission to candidacy for the Ph.D. requires two steps: 1) providing evidence that the student is prepared to identify a research question, design an approach for investigating that question, and a plan for executing the approach, all in the format of an NSF-style research proposal, and 2) illustrating adequate proficiency in the subject matter of ecology & evolution through a process involving both written and oral exams.

Proposal

Students must submit a NSF-style proposal to their committee outlining their project, typically by the end of the fourth semester. Each committee member will provide feedback to the student on the proposed research and indicate approval of the proposal or request revision. The proposal must be approved by all committee members prior to starting the preliminary exams.

While this proposal should be a plan for actual dissertation research, unforeseen circumstances may require altering the student's dissertation work after the proposal has been approved by the committee. In the case of a major alteration, the student should reformulate a research plan and submit it to the committee in writing for committee approval.

Preliminary Exam

Passing the preliminary exam is the official admission to candidacy.

Written portion of the preliminary exam. The student will take the written exam portion of the preliminary exam no fewer than two weeks following approval of the research proposal. The goal of this exam is to test breadth of knowledge in ecology & evolution. The design of this exam will be coordinated by the graduate committee under the leadership of the adviser. Each written exam will cover the following topics:

- Ecological topics ranging from organismal/evolutionary to ecosystem-level perspectives, integrating concepts and perspectives from across the discipline, over a wide range of spatial and temporal scales.
- The philosophical and historical development of ecology & evolution.
- The conceptual background of the student's area of specialization.

The exam will consist of four to six questions developed collectively by the committee and organized by the student's major professor. The exam will be open book; however, the answers will be solely the work of the student. Answers should be fully cited and collectively should be no longer than 30 pages double-spaced exclusive of references cited. Students will have one full week (seven days) to complete the exam. Committee members will indicate pass/fail within one week following completion of written exams. Four of five passing votes are required.

Oral Portion of the Preliminary Exam. No sooner than two weeks after successfully passing the written exam, the student may proceed to an oral exam administered by his/her graduate committee. Oral exams center around three goals from which questions will be derived:

- To verify that the student is prepared, conceptually and methodologically, to carry out successful dissertation research.
- To evaluate the student's ability to conceptualize specific questions in a broad, integrative context.
- To evaluate the student's ability to think spontaneously and creatively and to articulate responses about unexpected or novel questions.

The advisory committee will discuss and organize specific questions based on these goals in a short session at the beginning of the exam period before admitting the student to the examination room and starting the exam. Following the exam each committee member will provide non-binding paper votes of pass/ fail for each of the three goals of the oral exam. Following discussion of the student's performance, committee members will each assign a grade of pass/fail for the overall exam. Four of five committee members must vote for passing the overall oral exam.

Students whose performance is unsatisfactory will be given one opportunity for retaking the oral examination. This retake will occur no later than the

academic-year semester following the first examination.

Public Seminars

Students are required to give two oral presentations on their research. The purposes of these presentations are to provide the student with practice in oral presentations and to keep the PiE^2 community informed of the student's progress. The first will describe the student's dissertation research proposal. This presentation will be given before the student submits his/her thesis proposal. The second presentation will summarize the student's completed dissertation research, and will normally be given the same semester as the student's dissertation defense. Under extraordinary circumstances (subject to approval by the Graduate Affairs Committee), this presentation may be given at an earlier time. These presentations must be open to the public, and may comprise part of a departmental or Program in Ecology & Evolution and nbsp;seminar or brown-bag series.

Courses

- ECOL 5050 - Techniques in Environmental Data Management Credits: 4
- ECOL 5060 - Advanced Concepts in Evolution Credits: 3
- ECOL 5100 - Ecology as a Discipline Credits: 3
- ECOL 5400 - Community Ecology Credits: 3
- ECOL 5500 - Quantitative Analyses of Field Data Credits: 4
- ECOL 5520 - Habitat Selection Credits: 2
- ECOL 5540 - Microbial Diversity and Ecology Credits: 4
- ECOL 5550 - Ecology as a Scientific Profession Credits: 2
- ECOL 5580 - Rangeland Restoration Ecology Credits: 3
- ECOL 5610 - Quantitative Modeling in Landscape Ecology Credits: 3
- ECOL 5620 - Advanced Topics in Ecology Credits: 1-4
- ECOL 5650 - Tropical Field Ecology Ecuador Credits: 4
- ECOL 5680 - Landscape Genetics Credits: 3-4
- ECOL 5775 - Forest Ecology Credits: 4

- ECOL 5780 - Research in Ecology Credits: 1-6
- ECOL 5920 - Continuing Registration: On Campus Credits: 1-2
- ECOL 5940 - Continuing Registration: Off Campu Credits: 1-12
- ECOL 5980 - Dissertation Research Credits: 1-12

Economics/Water Resources M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Economics M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Economics, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Entomology/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the

transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Entomology M.S. Requirements:

Students will complete all requirements of M.S. core requirements in their major degree as outlined Entomology, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Entomology/Water Resources M.S.

- ENTO 5678 - Aquatic Entomology Credits: 3

Geology/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Geology M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Geology, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Geology/Water Resources M.S.

One of the Following:

- GEOL 5050 - Introduction to Isotope Geology Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3

One of the Following:

- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3

Geophysics/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Geophysics M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Geophysics, M.S.

Specific Requirements for Geophysics/Water Resources M.S. M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

One of the Following:

- GEOL 5050 - Introduction to Isotope Geology Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3

One of the Following:

- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3

Hydrologic Sciences, Ph.D. (WRESE)

Join a cutting-edge PhD program to gain expertise in technical, philosophical, and methodological aspects of hydrology. We foster research and learning on critical water-related science and social topics.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Hydrologic Sciences (WRESE), Ph.D.

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/wrese

E-mail: wrese@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Degree Offered

Ph.D. in Hydrologic Sciences

The Water Resources/Environmental Science and Engineering (WRESE) program facilitates Ph.D. level course offerings in water-related disciplines, and coordinates offerings of these courses. Furthermore, the WRESE program serves as a focal point for water-related graduate research and education at the University of Wyoming.

This interdisciplinary degree program encourages cross-department and inter-college coordination for research and education in hydrology and water resources.

The WRESE Program grants a PhD in Hydrological Sciences.

Program Specific Admission Requirements

Ph.D. in Hydrologic Sciences

The WRESE Program only admits students seeking a doctoral degree.

Those interested in graduate study in this program, are encouraged to contact the WRESE program (wrese@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit an application to the program via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html). Prospective students applying to the WRESE

program must satisfy the minimum criteria for admission of their advisor's home department (i.e., number of reference letters required; minimum GRE scores, if requested; other supporting documents, if requested; etc.).

Similarly, applicants should adhere to the submission deadline indicated by their advisor's home department.

Minimum criteria for admission to the WRESE Program are:

- Minimum undergraduate GPA of 3.000
- Agreement by a faculty member affiliated with the WRESE program to sponsor the student
- Admission to a home department at the University of Wyoming

Typically, students admitted into the program will have previously obtained a Masters-level degree. Under certain circumstance, students may be admitted directly after an undergraduate degree if they show exceptional promise and commitment. Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the WRESE program.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Degree Requirements:

Students in the WRESE Program are expected to create their graduate committee within the first

year of study. The committee should be composed of three faculty members within the PhD program in Hydrology and 2 should be from the student's departmental home. A committee shall be composed of no fewer than 5 members, of which only one may be from outside the University. Additional committee members may be added to support the student's learning and objectives on the discretion of the committee and WRESE Program chair.

Program of Study

Students enrolled in the Program should complete their Program of Study within the first 3 semesters. The student shall work with his/her research advisor and committee to determine the appropriate course of study relative to the student's research agenda. Students are expected to complete a rigorous course of study in quantitative hydrological sciences. Minimum requirements for the PhD include:

Coursework credits: 42 hours (26 can be from an MS)

Total credits: 72 hours

Math expectations: students are encouraged to pursue a high level of math proficiency, with typical students progressing through differential equations. Individual math expectations will be determined by the committee and program chair.

A dissertation proposal should be approved by the end of the 4th semester. Students shall submit their proposal to their committee for review two weeks prior to a holding a committee meeting where the student (a) presents their proposal in a public presentation and (b) defends the proposal to the committee in a closed meeting. After the meeting, the student shall amend the proposal as required by the committee within a timely manner.

Admission to Candidacy / Preliminary Examination

Advance to candidacy is attained by passing preliminary exams within 3 years of initiating a degree program. Students should complete their

preliminary exams as close to the end of their primary coursework as possible. Preliminary exams consist of two parts. The first part is a written examination wherein committee members shall submit written questions to the student. Once the student has passed their written exams, they will be administered an oral examination.

The written exam shall be administered by the student's research adviser, who will coordinate the questions so as to obtain a comprehensive review of the student's knowledge of the materials the student has learned in the classroom and needs to complete his/her research topic. Written questions should cover both conceptual and theoretical underpinnings in hydrological sciences and technical questions related to the student's research area.

The written exam will consist of a series of questions as decided upon by the committee and should take no more than two weeks to complete.

Each committee member shall grade their portion of the exam as pass/fail. The student shall be viewed as passing the written exam if no more than one person grades their portion of the exam as failing.

The oral examination will be held no sooner than two weeks after the written exams, and only after the student has passed their written examinations. The oral exam should be no less than 90 minutes long and no longer than 3 hours.

Following the exam, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Dissertation

The student will prepare a dissertation and make the document available to the committee at least two weeks in advance of an oral defense of the document. The oral defense must be at least 15 weeks after the student has been advanced to candidacy. Students shall present a public defense to the university community that is expected to be approximately 45 minutes long, with a public question-and-answer period after the presentation. If the committee determines

that the student has presented a suitable oral presentation of his/her research findings, a closed session meeting will be held in which the student defends their research to the committee. At the conclusion of the defense, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Additional Course Information:

Students in the WRESE Program may participate from any college, with the expectation that their program of study and dissertation will focus on quantitative issues of hydrology and water resources. The Program welcomes academic diversity, and students in WRESE have entered into the Program from a wide range of academic backgrounds and have hailed from numerous home departments, including Ecosystem Science and Management, Civil and Architectural Engineering, Botany, Zoology and Physiology, and Geology and Geophysics.

Water Resources/Environmental Science and Engineering is an Interdisciplinary program that fulfills an important need by organizing a rigorous Ph.D.- level curriculum, with sufficient numbers of relevant courses to serve the needs of Ph.D. students affiliated with the program faculty.

Molecular and Cellular Life Sciences, Ph.D.

The Molecular and Cellular Life Sciences (MCLS) program serves as an inclusive and integrative graduate program for students being trained in basic biological and biomedical research at the molecular and cellular levels.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Molecular and Cellular Life Sciences, Ph.D.

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/mcls/

Email: mcls@uwyo.edu

Program Director: Daniel Levy, Ph.D.

Degree Offered

Ph.D. in Molecular and Cellular Life Sciences

This interdisciplinary program with more than 30 faculty participants spans a wide range of research topics, such as: Biotechnology, bioengineering, biomaterials, pharmacology, Cell biology and signaling, Genetics and development, Genomics, proteomics, computational biology, Microbiology and infectious disease, Structural biology and biophysics.

Coursework focuses on core courses in biochemistry and molecular biology, with electives that include such diverse courses as: Topics in Genomics, Biophysics, Microbial Physiology and Metabolism, Cell and Developmental Genetics, Mass

Spectrometry and Analytical Chemistry, Biomedical Engineering, Mammalian Endocrinology, Cell Culture and

Virology, Introduction to Bioinformatics, Protein Structure and Function, Microbial Genetics, Computational Biology, and Quantitative Microscopy.

Program Specific Admission Requirements:

Admission to MCLS is a two-step process. The first level of evaluation is carried out by the MCLS admissions committee.

This step does not require any fee but does require that all requested materials be submitted as described on our website. After an initial review of all complete applications, a subset of qualified applicants will be selected for video conference interviews with members of the MCLS admissions committee. Applicants who are chosen for admission to the MCLS program will then complete the final application step through the University of Wyoming Admissions office. This latter step requires the completion of several additional forms. Students are then officially notified by the university of their acceptance into the MCLS program.

We encourage students to submit their completed applications at the very latest by January 1 of each calendar year. However, because our review of applications will begin in the late fall, early submissions are encouraged and may stand a greater likelihood of success. Also note that we will continue to review new applications received after January 1 in the event that additional slots are available.

Program Specific Degree Requirements:

MCLS doctoral students must fulfill the minimum requirements outlined by the university. In addition, students must obtain a high level of proficiency in the core foundations of the molecular and cellular life sciences through required courses in biochemistry/ molecular biology, scientific literature analysis proficiency, and the MCLS cornerstone course. Because of the broad range of research interests pursued by MCLS faculty and students, considerable flexibility will be exercised regarding the specific nature of the graduate-level elective courses that students may take.

Students must successfully complete four eight-week rotations in MCLS laboratories of their choice during the first year.

Students must pass a comprehensive assessment exam at the end of the first year. Towards the end of the second year, students will undertake a qualifying examination in order to be formally admitted to graduate degree candidacy. This exam will have both

written and oral components and will cover areas of science that are relevant to the students' research.

The research and coursework progress of MCLS students will also be monitored and evaluated every year by the MCLS curriculum committee. In addition, an annual meeting with a research-specific dissertation committee will facilitate and evaluate the research progress of MCLS students beginning in the second year.

Students must attend weekly outside seminars on topics in the molecular life sciences for the durations of their studies.

For more information, please see the program's Web site at: www.uwyo.edu/MCLS/.

Neuroscience, Ph.D.

The Graduate Program in Neuroscience is interdisciplinary. Students receive broad and integrative training in neuroscience with emphasis on core concepts, skills, and methodologies.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Neuroscience, Ph.D.

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/neuroscience/

Email: neuroscience@uwyo.edu

Program Director: Kara Pratt, Ph.D.

Degree Offered

Ph.D. in Neuroscience

The Graduate Neuroscience Program offers training leading to the Ph.D. degree in Neuroscience. The Neuroscience Program emphasizes systems and integrative approaches, and our goal is to provide the students with the necessary background to be broadly trained research neuroscientists and to carry out independent research in neuroscience. The Neuroscience Program emphasizes continuing interaction with faculty from several departments and we have a low student to faculty ratio. Advisors spend considerable time supervising and training each doctoral student. The educational philosophy of the Neuroscience Program is to encourage a problem-oriented rather than a strict discipline-bound approach to research. You will emerge from this program with the scientific and experimental training needed to comprehensively address a very wide range of research questions using a variety of techniques and analytic tools.

The Graduate Neuroscience Program is designed to enable graduate students to acquire competence in the various disciplines necessary for research and teaching careers in neuroscience. The current interests of the Neuroscience faculty include sensory neurophysiology, behavioral neuropharmacology, neurodevelopment, neurodegeneration, and synaptic plasticity.

Students and faculty have access to outstanding resources established by NIH Neuroscience and Sensory Biology Core grants. The Microscopy Core houses both light (Zeiss laser scanning, fluorescent) and electron (Transmission and

Scanning) microscopes. Resources needed to conduct research ranging from molecular, cellular circuit level to behavior are readily available within the Neuroscience Center.

Doctoral Program Admission Minimum Requirements:

GRE: Accepted but not required;

GPA: 3.000 (4.000 scale);

Three favorable letters of recommendation;

Bachelor's degree in a biological science from an accredited institution;

Statement of research interests and career objectives. We recommend that students study the Neuroscience faculty web sites and contact faculty regarding openings and shared research interests.

You will be best prepared for our program if you have successfully completed courses in neuroscience, chemistry, biology, physiology, and cell/molecular biology. Students may be admitted with deficiencies in some of the areas if they are strong in many or all others. If so, the student's advisory committee will determine what additional work is necessary during the first year to correct any deficiency.

Program Specific Degree Requirements:

All doctoral Neuroscience students are required to complete a program of core classwork that must include the required courses Introduction to Neuroscience (NEUR 5280) and Structure and Function of the Nervous System (NEUR 5100). Students are required to take one course in Statistics (e.g. STAT 5050, STAT 5210) and the course that meets this requirement will be arranged with the student's committee. The statistics requirement must be met by the end of the second year. The Neuroscience Program is a research-oriented program and students are expected to take a minimum of 2 to 3 credit hours of research per semester. Students are also expected to enroll in an on-going Seminar in Neuroscience. The Neuroscience Seminar, which meets weekly and is attended by students and faculty members, provides an opportunity for intellectual and social exchange, as well as for the development of professional skills in critical thinking. The topic for seminar and the faculty member directing the seminar changes each semester. The remainder of the coursework for the doctor of philosophy degree is selected from designated courses in Neuroscience, physiology, pharmacology, and molecular biology. A grade of B or better is required for all Neuroscience courses.

A student is expected to have a graduate adviser at all times. The faculty adviser must be a participating member of the Neuroscience faculty. The adviser is responsible for directing the student's research and academic coursework. During the second year, the student will have an advisory committee. The advisory committee will consist of at least three neuroscience faculty members and an outside member. Normally, the student's adviser will chair the committee and help identify members of the committee who best match the student's area of interest. The role of the advisory committee is to oversee all aspects of the student's education after the first year.

In the student's second or third year, the advisory committee will set and evaluate the student's qualifying examination. After successful completion of the preliminary examination the student will profess to Ph.D. candidate status.

The dissertation is the single most important component of the graduate program. It reports the results and significance of the student's research. In addition to the written dissertation, the doctoral candidate will deliver a formal seminar based on their research. The seminar will be followed by an examination by the student's advisory committee.

Courses

- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 4720 - Neuroscience Speaker Seminar Credits: 2
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5280 - Introduction to Neuroscience Credits: 3
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5715 - Seminar in Neuroscience Credits: 1-2
- NEUR 5720 - Neuroscience Speaker Seminar Credits: 2
- NEUR 5800 - Research in Neuroscience Credits: 1-16
- NEUR 5887 - Molecular Neuropharmacology Credits: 3

- NEUR 5920 - Continuing Registration: On Campus Credits: 1-2
- NEUR 5940 - Continuing Registration: Off Campus Credits: 1-2
- NEUR 5980 - Dissertation Research Credits: 1-12

Rangeland Ecology and Watershed Management/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Rangeland Ecology and Watershed Management M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Rangeland Ecology and Watershed Management, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

The Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Rangeland Ecology and Watershed

Management/Water Resources M.S.

- STAT 2050 - Fundamentals of Statistics Credits: 4

Soil Science/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Soil Science M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Soil Science, M.S.

Water Resources, M.S.

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

The Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Soil Science/Water Resources M.S.

- SOIL 5130 - Chemistry of the Soil Environment Credits: 3
- SOIL 5140 - Soil Microbiology Credits: 4

Students Must Take One of the Following Courses:

- SOIL 5110 - Modeling Water and Chemical Transport in Vadose Zone and Groundwater Systems Credits: 4
- SOIL 5150 - Forest and Range Soils Credits: 3
- SOIL 5160 - Soil Health and Nutrient Cycling Credits: 3

Zoology and Physiology/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Zoology and Physiology M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Zoology and Physiology, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

School of Energy Resources

School of Energy Resources

Energy Innovation Center, RM 301
Phone: (307)766-6879

Holly Krutka, Executive Director
Website: https://www.uwyo.edu/ser/

The School of Energy Resources facilitates interdisciplinary academic and research programs in engineering and science, economics, land management, and environment and natural resources policy to address critical energy-related issues faced by our society.

Our mission is to leverage and add to the already significant energy-related talent and resources in the University of Wyoming colleges to develop human resources, know-how, and technical solutions to ensure a secure and sustainable energy future for the state, region, and nation.

The University of Wyoming (UW) School of Energy Resources (SER) was created in 2006 by the Wyoming Legislature through State Statute 21-17-117. Our goal is to enhance the university's energy-related education, research, and engagement. SER directs and funds cutting-edge energy research and technology development, which integrates with the formulation and conduct of academic programs at UW and bridges academics and industry through targeted engagement efforts. The bridges formed between academics and industry ensure programs are relevant, current, and deliver impact and high value to stakeholders and the state. Since its inception in 2006, SER has maintained flexibility in its focus and structure to meet the changing needs of Wyoming's energy industries and the state's economy which is now more critical than ever.

Emeritus Faculty:

SER Professor of Chemistry and Warren Chair of Energy and Environment BRUCE A. PARKINSON, B.S. Iowa State University 1972; Ph.D. California Institute of Technology 1977; SER Professor of Chemistry 2008.

Professors:

SER Professor of Energy Economics TIMOTHY J. CONSIDINE, B.A. Loyola University 1975; M.S. Purdue University 1977; Ph.D. Cornell University 1981; SER Professor of Energy Economics 2008.

SER Professor of Mathematics CRAIG C. DOUGLAS, A.B. Chicago University 1977; M.S. Yale University 1978; M.Phil. 1980; Ph.D. 1982; SER Professor of Mathematics 2008.

SER Professor of Chemical and Petroleum Engineering and the Carrell Endowed Chair MAOHONG FAN, B.S. Wuhan University of Science and Engineering, 1984; M.S. Beijing University of Science and Technology, 1992; Ph.D. Chinese Academy of Sciences, 1997; Ph.D. Iowa State University, 2000; Ph.D. Osaka University 2003; SER Professor of Chemical Engineering 2015, 2008.

SER Professor of Geology and Geophysics and John and Jane Wold Centennial Chair in Energy JOHN P. KASZUBA, B.S. Beloit College, 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines, 1997; SER Professor Geology & Geophysics, 2019, 2008.

SER Professor of Geology and Geophysics SUBHASHIS MALLICK, B.Sc. Indian Institute of Technology 1976; M.Sc. 1978; Ph.D. University of Hawaii 1987; SER Professor of Geology & Geophysics 2008.

SER Professor of Law and Occidental Chair in Energy and Environmental Policies TARA RIGHETTI, B.A. University of Colorado Boulder 2005; J.D. 2007; SER Professor of Law 2020, 2017, 2014.

SER Professor of Geology and Geophysics and Wyoming Excellence Chair DARIO GRANA, B.S. University of Pavia, 2003; M.S. 2005; M.S. University of Milano Bicocca, 2006; Ph.D. Stanford University, 2013; SER Professor of Geology and Geophysics 2022, 2018, 2013.

SER Professor of Environment and Natural Resources BRYAN LEONARD, B.A. Hillsdale College, 2010; M.S. Montana State University, 2012; Ph.D. University of California, Santa Barbara, 2016. SER Professor of Environment and Natural Resources 2024.

Associate Professors:

SER Associate Professor of Geology and Geophysics PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; SER Associate Professor of Geology and Geophysics 2014, 2008.

Assistant Professors :

SER Assistant Professor of Soil Sciences

Academic Professional:

SER Professional Land Management Director KRISTEN PRITCHETT, B.B.A. Texas A&M University, 2009; MREF, Texas A&M University, 2010; Master of Positive Psychology and Educational Counseling, University of Missouri, 2016.

SER Energy and Environmental Systems Director RANDALL VIOLETT, B.S. Montana State University, 1986; M.S. Montana State University, 1996; Ph.D. University of Wyoming, 2012.

SER Student Success and Experiential Learning Director ASHLI TOMISICH, B.S. Oklahoma Christian University, 2008; J.D. University of Wyoming, 2011; Ph.D. University of Wyoming, 2023.

Adjunct Professors:

ERICA BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

BENJAMIN COOK, B.S. University of Wyoming 2003; Ph.D. 2011; Associate Lecturer/Enhanced Oil Recovery Institute 2012.

MARY LOU DUNZIK-GOUGAR, B.S. Cedar Crest College; M.S. Pennsylvania State University; PhD. Pennsylvania State University; Associate Dean and Professor of the College of Science and Engineering and ISU Reactor Administrator.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of Wyoming 2013; Associate Professor of Energy and Petroleum Engineering 2022, 2016

TEMPLE STOELLINGER, B.S. University of Wyoming 2004; J.D. University of Wyoming 2010; Associate Professor of Law & Haub School 2020, 2015 and Wyoming Excellence Chair.

JONATHAN NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineering 2012, 1997.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

HAIBO ZHAI, Roy & Caryl Cline Endowed Chair in Engineering, Environment, and Natural Resources, B.S. Xi'an University of Technology 1999; M.S. Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

Accreditation

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education. In addition, the Professional Land Management Concentration is one of only a few programs accredited nationally by the American Association of Professional Landmen.

Graduates from the PLM program are afforded the opportunity to sit for the Registered Landman exam. Individuals with certification can increase their salary by 20% on average. Visit *landman.org* to learn more.

SER Vision Statement

SER pursues the creation, sharing, and implementation of technology and knowledge for sustainable economic production of Wyoming's natural resources to generate additional employment and revenue opportunities for the state that include supply of clean energy and materials and products.

SER Mission Statement

The School of Energy Resources' academic mission is to ensure students within its interdisciplinary academic programs can illustrate a foundational understanding of fundamentals relative to energy companies and systems. In order to prepare students to meet the demands of the modern-day workforce, students will utilize critical thinking skills, negotiation techniques, and problem-solving methods applicable to a diverse array of energy projects.

Program Admission

Undergraduate students will apply for admission to the University of Wyoming and then declare a major and concentration, the minor, or a certificate within SER at any point during their course of study. To declare a major and concentration or a certificate, students must meet with an SER representative. Any student with a 2.0 GPA can add the SER minor at any time without meeting with an SER representative.

One of the most important challenges of the 21st century will be to develop and manage energy resources in a sustainable manner. Projections show energy consumption worldwide will increase nearly 50 percent by 2035. And half of the leadership in the energy industries is expected to retire in the next five to ten years.

The future of energy will be characterized by increasing knowledge, relentless change, and technological innovation. As global energy industry increases in complexity, demand will dramatically grow for professionals with a multidisciplinary, entrepreneurial skillset. Future leaders must understand complex technology within the context of business, legal, social, and public policy in order to create comprehensive and sustainable solutions.

The Energy Resource Management and Development (ERMD) B.S. program is designed to fill this need through a combination of rigorous courses, real-world internships, and undergraduate research experiences. The curriculum balances depth of learning with the breadth of understanding to train graduates for sustained competitive success in the energy workforce at the frontiers of knowledge and for self-directed, life-long learning. Students learn to focus on continuous improvement, constant assessment, and the importance of a sense of urgency and consideration of profit motive in the energy industry.

Our program emphasizes career planning and provides constant one-on-one guidance and assistance to ensure optimal workforce placement. Students are strongly encouraged to complete an industry internship (the minimum GPA requirement is typically 3.000). Opportunities are also available for undergraduate research, a study abroad experience, or a summer field course. Multiple events during the year connect students to energy industry professionals.

General Policies

- A minimum 2.00 UW GPA is required to apply for the minor and the certificates.
- It is the student's responsibility to monitor requirements for the minor and the certificates, along with their assigned advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the major and minor must be passed with a grade of "C" or better.

Student Learning Outcomes

The School of Energy Resources was created in 2006 to enhance the University of Wyoming's energy-related education, research, and outreach. The Energy Resource Management and Development Program is designed to meet the demands of the energy workforce and enhance social literacy related to complex energy issues. Competency-based learning that integrates problem-solving, critical analysis of uncertain and complex issues, and constant improvement in performance are overarching components of our undergraduate program.

Energy Resource Management and Development B.S. Program and Energy Resource Management Minor Learning Outcomes:

- Identify or describe fundamental concepts of energy systems.
- Illustrate a foundational understanding of business fundamentals relative to energy companies, including organizational structure, management, entrepreneurship, and international commerce.
- Make use of critical thinking and problem-solving methods within a written group energy project.

Energy and Environmental Systems Concentration and Energy and Environmental Systems 3+3 Concentration Learning Outcomes:

- Outline the skills in environmental monitoring and compliance.
- Explain energy regulation and management.
- Demonstrate the necessary skills related to the physical and social science dimensions of sustainability.

Professional Land Management Concentration and Professional Land Management Concentration 3+3 Learning Outcomes:

- Apply concepts and skills to real-world problems to gain practical understanding and experience.
- Identify and navigate a valid real property transaction from contract to transfer of title.
- Define and navigate the legal and regulatory hurdles for energy development on federal, state, and fee lands.

Carbon Capture Utilization and Storage Learning Outcomes:

- Students will identify geological criteria for site selection, geophysical models of the subsurface for characterization and monitoring and minimizing risks related to transport and guaranteeing long-term storage of fluids in the subsurface.
- Define and navigate the legal and regulatory hurdles for energy development/environmental challenges on federal, state, and fee lands.
- Build techno-economic models capable of analyzing energy projects.
- Students will demonstrate the process necessary to effectively communicate with stakeholders, the general public, and stakeholders of a CCUS project to ensure concerns are explored and different communication methods considered based on the audience.

Land Administration Learning Outcomes:

- Identify and navigate a valid real property transaction from contract to transfer of title.
- Explain energy, natural resources, or agricultural regulation and management.
- Describe content and implications of past and current ENR, Ag, and property policies/laws.

Major

Energy Resource Management and Development, 3+3 Energy and Environmental Systems, B.S.

UW offers qualified undergraduate students a fast-track to a Juris Doctorate. The 3+3 EES Program at UW is an opportunity for qualified undergraduate students to earn their **bachelor's degree and law degree in six years** instead of seven years.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy and Environmental Systems (EES)

- Students accepted by UW College of Law (COL) into the EES 3+3 program begin taking classes at COL in what would otherwise be their senior year. Year one of law school (31 credits) counts toward both the BS and the JD degrees. Students must select one path for Years 1-3, either Energy and Environmental Systems or Professional Land Management. Following are the requirements for EES 3+3.
- EES majors can become environmental scientists who collect samples of air, soil, & water to identify environmental impacts, resolve environmental threats, & provide guidance on quality regulation and manage natural resources.
- Students will complete a minimum of 85-95 credits in their baccalaureate (undergraduate) program by the end of their junior year (including required general education and major courses). Students will complete 90 credits with the College of Law. Students will be granted a BS upon completion of the 120 credit hours required for the undergraduate degree in BS-ERMD (using year one of College of Law coursework), with a cumulative minimum UW GPA of 2.0 or higher. Students must complete 42 hours of upper-division (3000-level or above) coursework, 30 of which must be from the

University of Wyoming. During the Energy Resource Management and Development program (years 1-3), students will be advised by the School of Energy Resources advisor. During the College of Law program (years 4-6), students will receive advising from the College of Law.

EES Core Required Curriculum

- ACCT 2010 - Principles of Accounting I Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4
- DSCI 4260 - Project Management Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3

OR

- AGEC 1020 - Principles of Microeconomics Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENR 1000 - Energy and Society Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- MATH 2200 - Calculus I Credits: 4
- PLNT 1000 - Agroecology Credits: 4
- PLNT 4070 - Weed Science and Technology Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 3100 - Principles of Wildland Water Quality Credits: 3

OR

- ENR 3100 - Principles of Wildland Water Quality Credits: 3

- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM 2, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3 **(Recommended)**
- GEOL 2220 - Communicating Earth Science Credits: 3
- HP 2020 - Honors Colloquium II Credits: 3

COM 3, Pick ONE

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4040 - Rhetoric, Media, and Culture Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

- ESS 4950 - Exploring the Earth System Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2
- REWM 4900 - Rangeland Management Planning Credits: 3

Technical Elective, EES, Pick ONE

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3

OR

- AMST 3050 - Cultures of Nature in the United States Credits: 3

OR

- GWST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3130 - Environmental Quality Credits: 3

OR

- SOIL 3130 - Environmental Quality Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

OR

- GEOG 3450 - Weather and Climate Credits: 3

OR

- GEOL 3450 - Weather and Climate Credits: 3
- ENR 3620 - Environmental Justice Credits: 3

OR

- POLS 3620 - Environmental Justice Credits: 3
- ENR 3700 - Wyoming Conservation Corps Practicum Credits: 1
- ENR 3750 - Natural Resource Planning and Economics Credits: 3

OR

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3
- ENR 3950 - Environmental Sociology Credits: 3

OR

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1
- ENR 4030 - Ecology of Knowledge Credits: 3

OR

- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- POLS 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- ENR 4240 - Disease Ecology Credits: 3

OR

- PATB 4240 - Disease Ecology Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3

OR

- REWM 4285 - Wildland Hydrology Credits: 4
- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3

OR

- HIST 4412 - Global Environment History Credits: 3

- ENR 4420 - Conservation Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CHE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ENR 4500 - Risk Analysis Credits: 4
- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- ENR 4700 - Media, Science, and Society Credits: 3

OR

- COJO 4700 - Media, Science, and Society Credits: 3
- ENR 4800 - Historic Preservation Credits: 3

OR

- AMST 4800 - Historic Preservation Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- ENR 4950 - Leadership in Natural Resources Management Credits: 2
- ENR 4960 - Field Studies in: Credits: 1-6
- ENR 4970 - ENR Internship Credits: 1-6
- ENR 4975 - Independent Study Credits: 1-6
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

OR

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3480 - Environmental Change Credits: 3

OR

- ESS 3480 - Environmental Change Credits: 3

- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4013 - Political Geography Credits: 3

OR

- INST 4013 - Political Geography Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4113 - Geological Remote Sensing Credits: 4

OR

- GEOL 4113 - Geological Remote Sensing Credits: 4
- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartography Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6
- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6
- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3390 - Range Judging Credits: 2
- REWM 3500 - Rangeland Plant Ecophysiology Credits: 3

- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4103 - Range and Ranch Recreation Credits: 3
- REWM 4150 - Behavior Modification for Production of Grazing Herbivores Credits: 3
- REWM 4300 - Grass Taxonomy Credits: 3
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4340 - Reclamation Techniques Field Trip Credits: 2
- REWM 4440 - Applied Fire Ecology Credits: 3
- REWM 4500 - Rainfall-Runoff Modeling Credits: 3
- REWM 4530 - Seminar Credits: 1
- REWM 4540 - Problems Credits: 1-4
- REWM 4550 - Internship in: Credits: 1
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4810 - Experiments in Restoration Credits: 2
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4
- RNEW 3000 - Tropical Ecology Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

OR

- GIST 4130 - Applied Remote Sensing Credits: 3

OR

- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4400 - Invasive Plant Ecology Credits: 3

OR

- PLNT 4400 - Invasive Plant Ecology Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4
- RNEW 4800 - Undergraduate Research Credits: 1-3
- SOIL 3000 - Irrigated Agriculture Credits: 3

OR

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2

- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4130 - Chemistry of the Soil Environment Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

OR

- MICR 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3

College of Law Required Courses (Years 4-6)

Please visit the College of Law Juris Doctor program.

Energy Resource Management and Development, 3+3 Professional Land Management, B.S.

UW offers qualified undergraduate students a fast-track to a Juris Doctorate. The 3+3 PLM program at UW is an opportunity for qualified undergraduate students to earn their **bachelor's degree and law degree in six years** instead of seven years.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Land Management (PLM)

- Students accepted by UW College of Law (COL) into the 3+3 program begin taking classes at COL in what would otherwise be their senior year. Year one of law school (31 credits) counts toward both the BS in ERMD and the JD degrees. Students must select one path for Years 1-3, either Energy and Environmental Systems or Professional Land Management. Following are the requirements for PLM 3+3.
- Professional Land Management majors determine ownership and title of surface and subsurface rights, negotiate leases between owners and energy developers, ensure federal and state regulatory compliance in energy development, and negotiate and maintain company contractual obligations for development and the subsequent profits.
- Students will complete a minimum of 85-95 credits in their baccalaureate (undergraduate) program by the end of their junior year (including required general education and major courses). Students will complete 90 credits with the College of Law. Students will be granted a BS upon completion of the 120 credit hours required for the undergraduate degree in BS-ERMD (using year one of College of Law coursework), with a cumulative minimum UW GPA of 2.0 or higher. Students must complete 42 hours of upper-division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. During the Energy Resource Management and Development program (years 1-3), students will be advised by the School of Energy Resources advisor. During the College of Law program (years 4-6), students will receive advising from the College of Law.

PLM Core Required Curriculum

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3

- DSCI 4260 - Project Management Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3

OR

- AGEC 1020 - Principles of Microeconomics Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENR 1000 - Energy and Society Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4010 - Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4482 - Global Climate Governance Credits: 3

OR

- ERS 4502 - Energy Finance Credits: 3
- ERS 4985 - Seminar Credits: 1-3

Required in the Spring of First Year of Law School

- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6
- FIN 2100 - Principles of Finance Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5
- MATH 2200 - Calculus I Credits: 4

OR

- MATH 2350 - Business Calculus Credits: 4
- MGT 2100 - Management and Organizations Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM 2, Pick ONE

- COMM 2010 - Public Speaking Credits: 3

- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3 **(Recommended)**
- GEOL 2220 - Communicating Earth Science Credits: 3
- HP 2020 - Honors Colloquium II Credits: 3

COM 3, Pick ONE

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4040 - Rhetoric, Media, and Culture Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- **Concurrent ENR majors must take ENR 4900**
- ESS 4950 - Exploring the Earth System Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2

Data Analysis Elective, Pick ONE

- ENR 4500 - Risk Analysis Credits: 4
- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- GEOL 2120 - Quantitative GeoMethods Credits: 3
- GEOL 4250 - Mathematical Geosciences Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3 **(Recommended)**
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 4100 - Tribal Government Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Economics Elective, Pick ONE

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ECON 4420 - Seminar: Economics for ENR Credits: 2-4
- ERS 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

OR

- ECON 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

Negotiation Elective, Pick ONE

- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

College of Law Required Courses (Years 4-6)

Please visit the College of Law Juris Doctor Program.

Energy Resource Management and Development, Energy & Environmental Systems Concentration, B.S.

EES majors can become environmental scientists who collect samples of air, soil, & water to identify environmental impacts, resolve environmental threats, & provide guidance on quality regulation and manage natural resources.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy and Environmental Systems (EES) Core Curriculum

Students must earn a letter grade of C or better in each course and a cumulative GPA of 2.000 or better. Students will complete 120 credit hours, including 42 upper division credit hours, for the BS in Energy Resources Management and Development.

- ACCT 2010 - Principles of Accounting I Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

OR

- ECON 1020 - Principles of Microeconomics Credits: 3
- DSCI 4260 - Project Management Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3 **(USP: H)**
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENR 1000 - Energy and Society Credits: 3 **(USP: PN)**
- ENR 4750 - ENR Law and Policy Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- LIFE 1010 - General Biology Credits: 4

- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- MATH 2200 - Calculus I Credits: 4
- PLNT 1000 - Agroecology Credits: 4 **(USP: PN)**
- PLNT 4070 - Weed Science and Technology Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 3100 - Principles of Wildland Water Quality Credits: 3

OR

- ENR 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- REWM 4700 - Wildland Watershed Management Credits: 3

OR

- REWM 4710 - Watershed Water Quality Management Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM2 Elective, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3 **(Recommended)**
- GEOL 2220 - Communicating Earth Science Credits: 3

- HP 2020 - Honors Colloquium II Credits: 3

COM3 Elective, Pick ONE

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4040 - Rhetoric, Media, and Culture Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

  Concurrent ENR majors must take ENR 4900
- ESS 4950 - Exploring the Earth System Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2

Chemistry Elective, Pick ONE (USP:PN for all listed)

- CHEM 1000 - Introductory Chemistry Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1050 - Advanced General Chemistry I Credits: 4

Data Analysis Elective, Pick ONE

- ENR 4500 - Risk Analysis Credits: 4
- ENR 4525 - Environmental Data Analysis Credits: 4

  OR
- GEOL 4525 - Environmental Data Analysis Credits: 4

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- GEOL 2120 - Quantitative GeoMethods Credits: 3
- GEOL 4250 - Mathematical Geosciences Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3 **(Recommended)**
- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Economics Elective, Pick ONE

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ECON 4420 - Seminar: Economics for ENR Credits: 2-4
- ERS 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

OR

- ECON 3400 - Energy Markets & Policy Credits: 3

General Electives, must take 11 credits, 6 credits must be upper division

- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 4050 - Unit Operations Laboratory II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3

OR

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- ECON 4430 - Energy Economics Credits: 3

- EDSE 3040 - Energy and Power Technology Credits: 3
- ENR 1200 - Environment Credits: 4
- ENR 2300 - Foundations of Sustainability Credits: 3
- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- ERS 4482 - Global Climate Governance Credits: 3
- ERS 4502 - Energy Finance Credits: 3
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6
- ERS 4965 - Undergraduate Research Credits: 1-3
- ESE 4460 - Solar and Geothermal Engineering Credits: 3

OR

- ME 4460 - Solar and Geothermal Engineering Credits: 3

- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3

OR

- ME 4470 - Wind and Ocean Energy Engineering Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3

OR

- GEOL 4470 - Fire Ecology Credits: 3
- GEOG 4550 - Geography of Wine Credits: 3
- GEOG 4880 - Current Topics Credits: 1-6
- GEOG 4885 - Seminar: (TOPICS) Credits: 1-3
- GEOL 1001 - Earth Science and Society Credits: 1
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

OR

- ASTR 1070 - The Earth: Its Physical Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

OR

- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

OR

- ESS 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 3250 - Geosciences and Computers Credits: 4
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOL 4010 - Exploration Geoscience Credits: 3

OR

- ERS 4010 - Exploration Geoscience Credits: 3
- GEOL 4060 - Rocky Mountain Field Trip Credits: 1
- GEOL 4190 - Petroleum Geology Credits: 3

- GEOL 4191 - Methods in Petroleum Geology Credits: 3
- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartography Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6
- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6
- HIST 4535 - History of Oil Credits: 3
- LIFE 1002 - Discovering Science Credits: 3
- LIFE 1003 - Current Issues in Biology Credits: 4
- LIFE 1020 - Life Science Credits: 4
- LIFE 1101 - Introduction to Ecological Research Credits: 3
- LIFE 2100 - Intro Research and Analysis Credits: 4
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- LS 2010 - Engineering Surveying Lecture Credits: 2
- LS 2015 - Engineering Surveying Laboratory Credits: 1
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2410 - GIS in Surveying Credits: 3

- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- MGT 4370 - Employment Law Credits: 3
- MGT 4430 - Organization Design and Change Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- PETE 4860 - Energy, Environment, and Materials Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3
- PLNT 1150 - Pesticide Safety and Application Credits: 1

OR

- ENTO 1150 - Pesticide Safety and Application Credits: 1
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3

OR

- INST 4385 - Environment and Resource Conflict Credits: 3
- POLS 4455 - Energy Security Credits: 3

OR

- INST 4455 - Energy Security Credits: 3
- POLS 4555 - Political Ecology Credits: 3

OR

- INST 4555 - Political Ecology Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MICR 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3
- SOWK 4780 - Seminar: Credits: 1-9
- UWYO 1019 - UWYO Saddle Up Credits: 1

Negotiation Elective, Pick ONE

- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

Technical Elective, Pick ONE

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3

OR

- AMST 3050 - Cultures of Nature in the United States Credits: 3

OR

- GWST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3130 - Environmental Quality Credits: 3

OR

- SOIL 3130 - Environmental Quality Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

OR

- GEOG 3450 - Weather and Climate Credits: 3

OR

- GEOL 3450 - Weather and Climate Credits: 3
- ENR 3620 - Environmental Justice Credits: 3

OR

- POLS 3620 - Environmental Justice Credits: 3
- ENR 3700 - Wyoming Conservation Corps Practicum Credits: 1
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3

- ENR 3950 - Environmental Sociology Credits: 3

OR

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1
- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1
- ENR 4030 - Ecology of Knowledge Credits: 3

OR

- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- POLS 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- ENR 4240 - Disease Ecology Credits: 3

OR

- PATB 4240 - Disease Ecology Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3

OR

- REWM 4285 - Wildland Hydrology Credits: 4
- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3

OR

- HIST 4412 - Global Environment History Credits: 3
- ENR 4420 - Conservation Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CHE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- ENR 4700 - Media, Science, and Society Credits: 3

OR

- COJO 4700 - Media, Science, and Society Credits: 3
- ENR 4800 - Historic Preservation Credits: 3

OR

- AMST 4800 - Historic Preservation Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- ENR 4950 - Leadership in Natural Resources Management Credits: 2
- ENR 4960 - Field Studies in: Credits: 1-6
- ENR 4970 - ENR Internship Credits: 1-6
- ENR 4975 - Independent Study Credits: 1-6
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

OR

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3480 - Environmental Change Credits: 3

- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4013 - Political Geography Credits: 3

OR

- INST 4013 - Political Geography Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4113 - Geological Remote Sensing Credits: 4

OR

- GEOL 4113 - Geological Remote Sensing Credits: 4
- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3390 - Range Judging Credits: 2
- REWM 3500 - Rangeland Plant Ecophysiology Credits: 3
- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4103 - Range and Ranch Recreation Credits: 3
- REWM 4150 - Behavior Modification for Production of Grazing Herbivores Credits: 3
- REWM 4300 - Grass Taxonomy Credits: 3
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4340 - Reclamation Techniques Field Trip Credits: 2
- REWM 4440 - Applied Fire Ecology Credits: 3
- REWM 4500 - Rainfall-Runoff Modeling Credits: 3
- REWM 4530 - Seminar Credits: 1
- REWM 4540 - Problems Credits: 1-4
- REWM 4550 - Internship in: Credits: 1
- REWM 4600 - Drone-Based Remote Sensing Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4810 - Experiments in Restoration Credits: 2
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4
- RNEW 3000 - Tropical Ecology Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

OR

- GIST 4130 - Applied Remote Sensing Credits: 3

OR

- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4400 - Invasive Plant Ecology Credits: 3

OR

- PLNT 4400 - Invasive Plant Ecology Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4
- RNEW 4800 - Undergraduate Research Credits: 1-3
- SOIL 3000 - Irrigated Agriculture Credits: 3

OR

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4130 - Chemistry of the Soil Environment Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

OR

- MICR 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3

Energy Resource Management and Development, Professional Land Management Concentration, B.S.

Professional Land Management majors determine ownership and title of surface and subsurface rights to negotiate leases with land/mineral owners, coordinate field exploration, and ensure compliance with governmental regulations.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Land Management (PLM) Core Curriculum

Students must earn a letter grade of C or better in each course and a cumulative GPA of 2.000 or better. Students will complete 120 credit hours, including 42 upper division credit hours, for the BS in Energy Resources Management and Development.

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3 **(USP: H)**

OR

- ECON 1020 - Principles of Microeconomics Credits: 3
- DSCI 4260 - Project Management Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3 **(USP: H)**
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENR 1000 - Energy and Society Credits: 3 **(USP:PN)**
- ENR 4750 - ENR Law and Policy Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4010 - Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4482 - Global Climate Governance Credits: 3

OR

- ERS 4502 - Energy Finance Credits: 3
- ERS 4985 - Seminar Credits: 1-3
- FIN 2100 - Principles of Finance Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5
- MATH 2200 - Calculus I Credits: 4

OR

- MATH 2350 - Business Calculus Credits: 4
- MGT 2010 - Legal Environment of Business Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM2 Elective, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3

- ERS 3000 - Energy Project Outreach and Communications Credits: 3 **(Recommended)**
- GEOL 2220 - Communicating Earth Science Credits: 3
- HP 2020 - Honors Colloquium II Credits: 3

Data Analysis Elective, Pick ONE

- ENR 4500 - Risk Analysis Credits: 4
- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- GEOL 2120 - Quantitative GeoMethods Credits: 3
- GEOL 4250 - Mathematical Geosciences Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3 **(Recommended)**
- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Economics Elective, Pick ONE

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ECON 4420 - Seminar: Economics for ENR Credits: 2-4
- ERS 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

OR

- ECON 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

General Elective, 25 credits in total, 9 credits must be upper division

- BOT 4775 - Forest Ecology Credits: 4

OR

- RNEW 4775 - Forest Ecology Credits: 4
- CHE 2005 - Chemical Process Analysis Credits: 3
- CHEM 4050 - Solar Energy Conversion Credits: 3

OR

- ERS 4050 - Solar Energy Conversion Credits: 3
- CRMJ 4990 - Special Topics Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3

OR

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- ECON 4430 - Energy Economics Credits: 3
- EDSE 3040 - Energy and Power Technology Credits: 3
- ENR 1200 - Environment Credits: 4
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

OR

- GEOG 3450 - Weather and Climate Credits: 3

OR

- GEOL 3450 - Weather and Climate Credits: 3
- ENR 3700 - Wyoming Conservation Corps Practicum Credits: 1
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3
- ENR 3950 - Environmental Sociology Credits: 3

OR

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1
- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- POLS 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- ENR 4420 - Conservation Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- ENR 4900 - Capstone in ENR Credits: 3
- ENR 4950 - Leadership in Natural Resources Management Credits: 2
- ENR 4960 - Field Studies in: Credits: 1-6
- ENR 4970 - ENR Internship Credits: 1-6
- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ESE 4460 - Solar and Geothermal Engineering Credits: 3

OR

- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3

OR

- ME 4470 - Wind and Ocean Energy Engineering Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3

- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6
- FIN 3310 - Investment Management Credits: 3
- FIN 3520 - Financial Markets Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3480 - Environmental Change Credits: 3

OR

- ESS 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4113 - Geological Remote Sensing Credits: 4

OR

- GEOL 4113 - Geological Remote Sensing Credits: 4
- GEOG 4470 - Fire Ecology Credits: 3

OR

- GEOL 4470 - Fire Ecology Credits: 3
- GEOG 4880 - Current Topics Credits: 1-6
- GEOG 4885 - Seminar: (TOPICS) Credits: 1-3
- GEOL 1001 - Earth Science and Society Credits: 1
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

OR

- ASTR 1070 - The Earth: Its Physical Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

OR

- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

OR

- ESS 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 3250 - Geosciences and Computers Credits: 4
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOL 4060 - Rocky Mountain Field Trip Credits: 1
- GEOL 4190 - Petroleum Geology Credits: 3
- GEOL 4191 - Methods in Petroleum Geology Credits: 3
- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartography Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4130 - Applied Remote Sensing Credits: 3

OR

- PLNT 4130 - Applied Remote Sensing Credits: 3

OR

- RNEW 4130 - Applied Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3

- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6
- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6
- HIST 4535 - History of Oil Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- LS 2010 - Engineering Surveying Lecture Credits: 2
- LS 2015 - Engineering Surveying Laboratory Credits: 1
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2410 - GIS in Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- MGT 4370 - Employment Law Credits: 3
- MGT 4430 - Organization Design and Change Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 4100 - Tribal Government Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- PETE 4860 - Energy, Environment, and Materials Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3

- PLNT 1000 - Agroecology Credits: 4
- PLNT 1150 - Pesticide Safety and Application Credits: 1

OR

- ENTO 1150 - Pesticide Safety and Application Credits: 1
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- POLS 3620 - Environmental Justice Credits: 3

OR

- ENR 3620 - Environmental Justice Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3

OR

- INST 4385 - Environment and Resource Conflict Credits: 3
- POLS 4455 - Energy Security Credits: 3

OR

- INST 4455 - Energy Security Credits: 3
- POLS 4555 - Political Ecology Credits: 3

OR

- INST 4555 - Political Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 3100 - Principles of Wildland Water Quality Credits: 3

OR

- ENR 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4

OR

- ENR 4285 - Wildland Hydrology Credits: 3
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4340 - Reclamation Techniques Field Trip Credits: 2
- REWM 4440 - Applied Fire Ecology Credits: 3

- REWM 4500 - Rainfall-Runoff Modeling Credits: 3
- REWM 4530 - Seminar Credits: 1
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- REWM 4600 - Drone-Based Remote Sensing Credits: 3
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4810 - Experiments in Restoration Credits: 2
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- SOIL 3130 - Environmental Quality Credits: 3

OR

- ENR 3130 - Environmental Quality Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4130 - Chemistry of the Soil Environment Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

OR

- MICR 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MICR 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- SOC 4890 - Special Topics in Credits: 1-3
- SOIL 4565 - Research: Soil Science Credits: 1-4

- SOWK 4780 - Seminar: Credits: 1-9
- UWYO 1019 - UWYO Saddle Up Credits: 1

Negotiation Elective, Pick ONE

- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

Minor

Energy Resource Management Minor

ERM Minor

The purpose of the ERM minor is to provide students at UW the opportunity to learn about energy and expand their career opportunities with this credential.

Core Courses- 6 credit hours needed

- ERS 1000 - Energy and Society Credits: 3

OR

- ENR 1000 - Energy and Society Credits: 3
- ERS 3400 - Energy Markets & Policy Credits: 3

OR

- ECON 3400 - Energy Markets & Policy Credits: 3

Elective Courses- 6 credit hours needed

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CHE 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3

OR

- ERS 1300 - Oil: Business, Culture, and Power Credits: 3
- EDSE 3040 - Energy and Power Technology Credits: 3
- EE 2220 - Circuits and Signals Credits: 4
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4510 - Power Systems Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3
- ERS 3010 - Air Quality Management Credits: 3

- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- ERS 4482 - Global Climate Governance Credits: 3
- ERS 4502 - Energy Finance Credits: 3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3
- ESE 4060 - Energy Systems Design I Credits: 3
- ESE 4474 - Topics in Energy Systems Engineering Credits: 1-3
- GEOG 3480 - Environmental Change Credits: 3

OR

- ESS 3480 - Environmental Change Credits: 3

OR

- GEOL 3480 - Environmental Change Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOL 4010 - Exploration Geoscience Credits: 3

OR

- ERS 4010 - Exploration Geoscience Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3

OR

- GEOL 5190 - Petroleum Geology Credits: 3
- GEOL 4020 - Global Biogeochemistry Credits: 3
- GEOL 4210 - Topics in Geophysics Credits: 1-3
- GEOL 4525 - Environmental Data Analysis Credits: 4

OR

- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- ENR 5525 - Environmental Data Analysis Credits: 4
- GEOL 4720 - Ore Deposits Credits: 4

OR

- GEOL 5720 - Ore Deposits Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- HIST 4535 - History of Oil Credits: 3
- INST 4455 - Energy Security Credits: 3

OR

- POLS 4455 - Energy Security Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3

OR

- ARE 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ME 3450 - Properties of Materials Credits: 3
- ME 3975 - Internship Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- ME 4430 - HVAC Systems Analysis and Design Credits: 3

OR

- ARE 4430 - HVAC Systems Analysis and Design Credits: 3

- ME 4455 - Combustion Engineering Credits: 3

OR

- ESE 4455 - Combustion Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3

OR

- ESE 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

OR

- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- NAIS 4100 - Tribal Government Credits: 3
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- PETE 4860 - Energy, Environment, and Materials Credits: 3
- PHYS 2250 - Themodynamic Systems in Energy Science Credits: 4
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- ENR 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4
- SOC 3950 - Environmental Sociology Credits: 3

OR

- ENR 3950 - Environmental Sociology Credits: 3
- SOIL 4100 - Soil Physics Credits: 3

Certificate

Carbon Capture Utilization and Storage (CCUS) Undergraduate Certificate

Covering technology, economics and policy, and communication, this certificate is designed for a broad, multidisciplinary audience with an interest in energy, sustainability and climate change mitigation.

Undergraduate CCUS Certificate - 21 credit hours

Carbon capture utilization and storage (CCUS) has experienced growing interest over the past two decades, due to the desire to reduce CO_2 emissions and the ability of CCUS to reduce emissions at large scales. This certificate covers CCUS technologies, economics, communication and outreach and policy of CCUS. CCUS is an important component of climate change mitigation as the technology allows for the continued consumption of affordable, abundant and secure fossil fuels in a carbon-constrained world. In addition, CCUS allows for industrial processes with CO_2 as a byproduct (e.g., cement production, biofuels production, etc.) to mitigate their emissions. Ultimately, CCUS prevents CO_2 (carbon dioxide) emissions from entering the atmosphere by capturing and storing them permanently and safely underground. The courses in this certificate are taught by a team of leading academics at the University of Wyoming with decades of experience in this field. This certificate program aims to bridge the gap between the forefront of the latest developments in science, engineering, geology, policy and economics and the wider public.

CCUS Undergraduate Certificate Core Curriculum

Required Core Courses - 15 Credit hours (Based on 4 broad topics)

- ERS 3000 - Energy Project Outreach and Communications Credits: 3

- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 5480 - Carbon Capture and Storage Credits:
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:

OR

- CHE 5481 - Geological Carbon Sequestration Credits:
- ERS 4482 - Global Climate Governance Credits: 3
- ERS 4502 - Energy Finance Credits: 3

Elective Courses - Minimum 6 credit hours from any of the disciplines/courses below

Energy Economics

- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4890 - Special Topics in _____ Credits: 1-3
- ECON 3400 - Energy Markets & Policy Credits: 3

OR

- ERS 3400 - Energy Markets & Policy Credits: 3
- ERS 1300 - Oil: Business, Culture, and Power Credits: 3

OR

- ECON 1300 - Oil: Business, Culture, and Power Credits: 3

Energy & Environment

- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- BOT 4745 - Terrestrial Ecosystem Ecology Credits: 3
- ENR 2030 - History and Environmental Science Credits: 3

OR

- HIST 2030 - History and Environmental Science Credits: 3
- ENR 4500 - Risk Analysis Credits: 4
- ERS 1000 - Energy and Society Credits: 3

OR

- ENR 1000 - Energy and Society Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3

Energy Law and Land Management

- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6

Energy Policy

- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3

Energy Science & Engineering

- ERS 4010 - Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4

Land Administration Undergraduate Certificate

Land management is the process of overseeing the use, allocation of natural spaces/resources for public or private projects, and/or conservation. This certificate allows those interested in energy, agriculture, natural resources, etc., an avenue to learn more.

Land Administration

To solve today's complex land management issues, professionals need a broad understanding of key elements affecting environments and the relationships between land, agriculture, energy and people. This Land Administration Certificate

prepares students with the tools, methods, theories, and action steps that help identify land administration problems and the means to develop, implement, and evaluate proposed solutions. Certificate holders will be able to critically explore root cause analysis and recommend desired outcomes. Solving natural resource and land challenges requires a multi-disciplinary approach, which this certificate offers in a collaboration between School of Energy Resources, College of Agriculture, Life Sciences and Natural Resources, and Haub School of Environment and Natural Resources. Students become a knowledgeable leader in land management as it relates to energy, agriculture and natural resources with this certificate program. The curriculum offers both a philosophical and functional view that is applicable to a wide range of careers.

Certificate - 16 credit hours

Core Courses - 9-10 credit hours

- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4100 - Property I Credits: 3

Select ONE of the following (ENR 1200, AGEC 3400, ENR/AGEC 3750)

- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 1200 - Environment Credits: 4

Elective Courses - Minimum 6 credit hours from 34 identified courses at UW.

Energy Economics

- AGEC 3420 - Applied Equity Investing Credits: 3
- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- AGEC 4890 - Special Topics in _____ Credits: 1-3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3

OR

- ERS 1300 - Oil: Business, Culture, and Power Credits: 3
- ECON 3400 - Energy Markets & Policy Credits: 3

OR

- ERS 3400 - Energy Markets & Policy Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3
- ERS 4502 - Energy Finance Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

Energy & Environment

- ENR 2030 - History and Environmental Science Credits: 3

OR

- HIST 2030 - History and Environmental Science Credits: 3
- ENR 2345 - Natural Resource Ethics Credits: 3

OR

- ENR 4500 - Risk Analysis Credits: 4
- ENR 4950 - Leadership in Natural Resources Management Credits: 2
- ERS 1000 - Energy and Society Credits: 3

OR

- ENR 1000 - Energy and Society Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4970 - Internship Credits: 1-4

- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3
- SOC 3950 - Environmental Sociology Credits: 3

OR

- ENR 3950 - Environmental Sociology Credits: 3

Energy Law and Land Management

- ENR 4750 - ENR Law and Policy Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6

Energy Policy

- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- ERS 4482 - Global Climate Governance Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3

Energy Science & Engineering

- ENR 4420 - Conservation Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ERS 4010 - Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- REWM 3500 - Rangeland Plant Ecophysiology Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4

Science and Mathematics Teaching Center

- Admission Requirements
- Degree Requirements

- Graduate Assistantships and Scholarships

Office of Graduate Education
Old Main 310
Phone: (307) 766-4128
Website: http://www.uwyo.edu/smtc/
Email: smtc@uwyo.edu

The Science and Mathematics Teaching Center (SMTC) was established in 1970 and is committed to excellence in science, mathematics and technology education. As part of the Office of Graduate Education in Academic Affairs, the SMTC, in cooperation with the Wyoming Department of Education (WDE) and the Professional Teaching Standards Board (PTSB), serves as a resource and professional development center for the state. The SMTC offers transdisciplinary graduate degree programs with multiple degree concentrations, certification options, and endorsement options. All of the programs emphasize both strong content knowledge and instructional practices. The affiliate faculty for the SMTC is comprised of include faculty from the Colleges of Agriculture and Natural Resources, Arts and Science, Education, and Engineering and Applied Science, and the Haub School of Environment and Natural Sciences.

The SMTC provides extensive off-campus professional development that serves throughout Wyo¬ming that serves teachers, students, administrators, school districts and communities. SMTC in-service and extension courses, workshops, institutes, and conferences are designed collaboratively to improve science and mathematics teaching in Wyoming.

The SMTC administers and supports five master's degree programs:

- the Master of Science degrees in Natural Science with concentrations in Middle Level Math (MMA) and
- Middle Level Science (MSC); these programs are designed for Wyoming's in-service elementary, middle, and high school teachers. They focus on general science and mathematics content with an emphasis on teaching middle school level learners. The course work leads to middle level certification provided by the Wyoming PTSB. Teachers must have two years of teaching experience to participate in these programs.
- Master of Science in Teaching - Natural Science (MST - Natural Science). This is a self-directed master's degree program working with the SMTC,

SER, and the Haub School as well as other colleges. The program is developed individually with the guidance of a graduate committee based on the interests of the graduate student and may emphasize formal or informal learning settings.

- Master of Science - Natural Science (MS - Natural Science). This is a self-directed master's degree program working with the SMTC, SER, and the Haub School and other colleges. The program is developed individually based on the interests of the graduate student.
- Master of Science in Natural Science with a concentration in Natural Science Education (NED). This Master's degree program is designed for students pursuing careers as environmental and natural science educators in non-public school or non-formal education settings. These students spend one year at the Teton Science Schools (TSS) in Jackson. A long-standing MOU between the SMTC and TSS allows students to use 15 graduate credit hours earned at TSS towards a master's degree if they are accepted into the second year at UW within the SMTC.

Admission Requirements

For the MSC, MMA, MST and MS-Natural Science Master's Degrees:

Two years of teaching experience and a valid teaching license

Application Fee, unless a UW Graduate

Official Transcripts from all Institutions attended and Bachelor Degree conferring institution

3.0 undergraduate grade point average; provisional admission with a lesser GPA only with consent from Academic Affairs

GRE (minimum 292 score) or an Alternative Portfolio including evidence that supports the potential success of the candidate as a graduate student and a document that interprets the evidence

Writing Sample in response to three provided questions

Resume

Three Letters of Recommendation including a letter from the teacher's principal and two other colleagues.

Note: if a prior Master's degree has been awarded, GRE Scores or an Alternative Portfolio are not required

The NED Degree - First Year Application:

Official Transcripts from all institutions attended and Bachelor Degree conferring institution

Application Fee, unless a UW Graduate

The NED Degree - Second Year Application:

GRE (minimum 292 score) or an Alternative Portfolio including evidence that supports the potential success of the candidate as a graduate student and a document that interprets the evidence

Writing Sample in response to three provided questions

Resume

Three Letters of Recommendation including a letter from a TSS Graduate Program Faculty Member, one from another TSS employee such as a Classroom Instructor or Field Instructor, and one from the first year application.

All the above information needs to be uploaded onto a UW graduate application, which will be reviewed by the SMTC and then if accepted, by the University of Wyoming Admissions and the SMTC. Any of the above requirements plus the university's minimum 3.000 grade point average can be waived if the proper documentation and reasoning is given and approved by the Associate Vice President of the Graduate Program.

Degree Requirements

For the MSC, MMA, MST and MS- Natural Science Master Degrees

Plan B (non-thesis)

30 Credit Hours of coursework is required. This includes 24 credit hours in required coursework that includes mathematical content courses, mathematical history, pedagogy and assessment; earth science, life science, physical science, depending on the program. 6 credit hours of additional coursework that can include a research class and an elective.

The MSC is a 3-year program, for the required coursework, in the summers only on UW's main campus.

The MMA is a 2-year program with classes offered virtually in the fall and spring and in-person on the main campus in the summer, for the required courses.

The MST and the MS- Natural Science Master Degrees are Main campus degrees.

A Plan A (thesis) may be completed with an extra year of research.

For the NED Master Degree - 2nd year.

Plan B (non-thesis)

This is a one-year program on the main campus.

30 credit hours of coursework is required, of which 15 credit hours of agreed upon courses, are transferable from TSS. The other 15 credit hours include a research class, environmental science and science pedagogy classes as chosen by the graduate student and their advisor.

A concurrent major in Environmental and Natural Resources is an option with this Master's

A Plan A (thesis) may be completed with an extra year of research.

Graduate Assistantships and Scholarships

The SMTC has scholarships and graduate assistantships available for all graduates accepted for the above Master's degree programs. More information upon admission and acceptance.

Degree Programs

*For questions regarding courses that do not have an active course link, please contact the Office of the Registrar.

College of Agriculture, Life Sciences and Natural Resources

151 Agriculture Building

Kelly Crane, Interim Dean
Phone: (307)766-4133
Web site: www.uwyo.edu/uwag

The College of Agriculture, Life Sciences and Natural Resources offers a wide variety of course work in agriculture, natural resources, molecular biology, and family and consumer sciences. The curriculum provides a sound background in basic sciences and the choice of a number of fields in which to specialize. Students are trained in principles which apply throughout the world, with special emphasis on agriculture and natural resources found in the Rocky Mountain region.

Laboratory work and other experiential learning opportunities are stressed in all programs. Students receive excellent training from case studies and practical experience provided at research and extension centers. Other facilities include modern laboratories and classrooms, an abattoir, meat processing rooms, livestock and crop farms and greenhouses.

In addition to the academic departments, the college includes the Agricultural Experiment Station and the UW Extension. Materials and techniques resulting from this effective triple combination benefit students in the never-ending search for problem-solving information. The close relationship between

teachers, researchers, and extension educators creates a learning atmosphere that encourages the development of the finest students.

Major

Agricultural Business, Agribusiness Management Option, B.S.

Prepare for careers across agribusiness and business sectors. Agricultural economics is supplemented with business and agricultural science courses to prepare you for a wide range of careers in the agricultural supply chain.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative: 11 Hours

(Required for Major)

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Agricultural Economics: 33 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

- AGEC 4450 - Negotiation Credits: 3

OR

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3

OR

- AGEC 4840 - Agricultural Market Analysis Credits: 3

OR

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3

OR

- AGEC 4970 - Technical Communication for Agribusiness Credits: 3
- 3 hours of 3000-4000 level AGEC electives

Supporting Agriculture: 9 Hours

9 hours from any of the following: ANSC, FDSC, PLNT, SOIL, REWM, RNEW, ENTO, or BOT

Supporting Business: 18 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- 9 hours of 3000-4000 level business courses
- NOTE: Up to 6 hours of the 9 hours may be taken from MKT 2100, MGT 2100, or FIN 2100.

Total Hours: 120

Agricultural Business, B.S.

The Department of Agricultural and Applied Economics offers three options within the agricultural business bachelor of science degree program. They are agribusiness management, farm and ranch management, and livestock business management. All three options focus on the development of critical thinking, research, and communication skills for students interested in

- agricultural operations,
- small rural businesses
- community economics,
- financial institutions,
- agricultural and natural resources development, and
- other pursuits where applied economic tools will be useful.

The agricultural business curriculum is designed to enable our students to:

- communicate effectively economic, agricultural, business decision-making and natural resource concepts,
- fit into a business, agency, or academic environment and use economic concepts to quantify and analyze relevant issues, and
- be familiar with issues related to agriculture, natural resources, and rural communities.

Options

A brief description of minimum course requirements for each of the four options in agricultural business is given below. In addition, professional advisers will work with students to tailor a curriculum to individual interests and goals.

- Agricultural Business, Agribusiness Management Option, B.S.
- Agricultural Business, Farm and Ranch Management Option, B.S.
- Agricultural Business, Livestock Business Management Option, B.S.

Environment and Natural Resources

Students interested in natural resource or environmental issues or careers may complete any of the four options within agricultural business offered by the department with an environment and natural resource emphasis. Inquiries about environment and natural resource concentrations in agricultural business should be directed to the Department of Agricultural and Applied Economics.

Agricultural Business, Farm and Ranch Management Option, B.S.

Combine courses in farm and ranch management, finance and marketing with crop, range, veterinary and animal sciences to prepare for a career managing farms, ranches, or feedlots.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative : 11 Hours

(Required for Major)

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Science:

- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4

OR

- CHEM 1050 - Advanced General Chemistry I Credits: 4

Agricultural Economics: 34 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

- AGEC 4050 - Agribusiness Marketing Credits: 3

OR

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3

OR

- AGEC 4450 - Negotiation Credits: 3

OR

- AGEC 4840 - Agricultural Market Analysis Credits: 3

OR

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3

OR

- AGEC 4970 - Technical Communication for Agribusiness Credits: 3

- 3 hours 3000-4000 AGEC electives

Supporting Agriculture: 15 Hours

- 11 hours from any of the following: ASNC, FDSC, PLNT, SOIL, REWM, RNEW, ENTO, or BOT
- SOIL 2010 - Introduction to Soil Science Credits: 4

Supporting Business: 6 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Total Hours: 120

Agricultural Business, Livestock Business Management Option, B.S.

Build skills to work in any sector of the livestock and meat industry, from input suppliers to meat processing, by combining courses in farm and ranch management, finance and marketing, with animal, range and food science, biology, and data analysis.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Quantitative: 11 Hours

- MATH 1400 - College Algebra Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR STAT 2070 - Statistics for Social The Social Sciences

Science (PN): 8 Hours

- CHEM 1000 - Introductory Chemistry Credits: 4
- LIFE 1010 - General Biology Credits: 4

Agricultural Economics: 37 Hours

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 2040 - Excel Applications in Ag Business Credits: 3
- AGEC 3030 - Applied Economic Decisions Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3

OR

- AGEC 4970 - Technical Communication for Agribusiness Credits: 3

- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3

OR

- AGEC 4840 - Agricultural Market Analysis Credits: 3

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

OR

- AGEC 4280 - International Food and Farm Cultures Credits: 3

OR

- ECON 4740 - International Economics and Policy Credits: 3

- AGEC 4500 - Agricultural Finance Credits: 3

Biology of Livestock: 17 Hours

LIFE 2022 and LIFE 3050 are only required if pursuing a minor in Animal Science.

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3

- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3

Additional Biology of Livestock

For Animal Science minor: 20 Hours

Must earn a C or better in all courses to earn the minor.

- ANSC 2010 - Domestic Animal Metabolism Credits: 3
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- PATB 4110 - Diseases of Food Animals Credits: 3

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3

OR

- ANSC 4220 - Advanced Beef Production and Management Credits: 3

OR

- ANSC 4230 - Advanced Sheep Production & Management Credits: 3

OR

- ANSC 4240 - Advanced Swine Production and Management Credits: 3

For Non-minor: 17 Hours

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 2020 - Feeds and Feeding Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3

- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3

Supporting Business: 6 Hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Total: 120 Hours

Agricultural Communications, B.S.

Courses in agriculture, communications, and journalism prepare students for careers as editors or writers for farm and home organizations, state and federal agencies, magazines, newspapers, radio, television, and commercial businesses.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Minimum Requirements

Communications/Journalism Core: 36 Hours

- COMM 1000 - Intro to Mass Media Credits: 3

- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3530 - Multimedia Production Credits: 3
- COJO 3480 - Internship Credits: 1-12 * Max 6 Credits, or two internships

AND

3 hours COJO/COMM Elective - ANY LEVEL

AND

12 hours COJO Electives - UPPER DIVISION

Agriculture Core Requirements: 36 Hours

At least 18 hours must be lower division (Ag 1000-2000) elective courses, and at least 12 hours must be upper division (Ag 3000-4000) elective courses and include

- AGEC 1020 - Principles of Microeconomics Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- ANSC 1010 - Introduction to Animal Science Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- FDSC 1410 - Scientific Study of Food Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4

OR

- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3

OR

- PLNT 2200 - Field Crop Production Credits: 3

OR

- REWM 2000 - Principles of Rangeland Management Credits: 3

AND

12 hours of UPPER DIVISION Electives from AECL, AGEC, AGRI, ANSC, ENTO, FCSC, FDSC, PATB, PLNT, REWM, SOIL

Supporting Course Requirement: 4 Hours

- STAT 2050 - Fundamentals of Statistics
Credits: 4

Additional Hours for Major and Electives: 14 Hours

8 hours of General Electives ANY DIVISION

6 hours of General Electives UPPER DIVISION

Total Hours: 120

Additional Requirements

Agricultural communication majors complete an internship in their field. A variety of opportunities are available, and students can work with their advisor to determine an appropriate internship for their area of emphasis.

Students wishing to pursue an area of emphasis in the agricultural communications option are encouraged to also select a minor. The college currently offers a variety of minors, and any of these can help to better prepare students for employment or graduate work.

Animal and Veterinary Science, B.S.

The Depts of Animal Science and Veterinary Sciences jointly offer the B.S. degree in Animal and Veterinary Science. Courses in animal science, food science, and pathobiology form four concentrations tailored to the student's interests/career goals.

Concentrations

- Animal and Veterinary Science, B.S. (Animal Biosciences Concentration)
- Animal and Veterinary Science, B.S. (Equine Science Concentration)
- Animal and Veterinary Science, B.S. (Food Animal Industries Concentration)
- Animal and Veterinary Science, B.S. (Pre-Veterinary Medicine Concentration)

Additional Information

Agriculture, in its broadest definition, is the nation's largest industry. Livestock production is Wyoming's largest agricultural enterprise. Animal agriculture and its associated industries offer many opportunities for the interested student. Whether a student is interested in production livestock, allied fields such as meat science, business or animal health, or wants to apply to a college of veterinary medicine or graduate school, the degree tracks offered will form the basis for a challenging career in animal agriculture/biology. The various options provide maximum flexibility to meet the changing needs of students and their employers. For students interested in pursuing advanced research, M.S. and Ph.D. degrees are offered.

A grade of C or better must be earned in the following courses when the courses are required in the individual option for completion of the degree: ANSC 3010, ANSC 3100, ANSC 4120, ANSC 4540, ANSC 4630; FDSC 3060, PATB 4110, PATB 4111, LIFE 1010, LIFE 2022.

Students are encouraged to participate in activities related to their degree option. The university has competitive livestock, horse, wool, and meat judging teams that travel to and participate in at least one major exposition a year. Laboratories and field trips, as practical teaching aids in many classes, are scheduled throughout the year. Internships are available to gain practical experience. Student organizations such as the Block and Bridle Club, Food Science Club, Pre-vet Club, Wyoming Collegiate Cattlemens Association, Microbiology Club, Range Club, and the Ranch Horse Team provide additional educational and recreational opportunities.

Animal and Veterinary Science, B.S. (Animal Biosciences Concentration)

This concentration focuses on basic sciences, and is designed as a preparatory program for those wanting to pursue a graduate degree in animal or veterinary science, premedical/pre-professional paths, or academic/government/industry research.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4

- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Animal Biosciences Concentration

Students declaring the Animal Biosciences concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 2220 - Pathogenic Microbiology Credits: 3
- PATB 4300 - Microscopic Anatomy Credits: 3

Choose any 1 from the following:

- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Supporting Agriculture/Math/Science

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4 **OR** (CHEM 2420 - Organic Chemistry I Credits: 4 **AND** CHEM 2440 - Organic Chemistry II Credits: 4)
- LIFE 3050 - Genetics Credits: 4

- MOLB 2021 - General Microbiology Credits: 4

OR MICR 2021 - General Microbiology Credits: 4

- MOLB 3610 - Principles of Biochemistry Credits: 4
- PHYS 1050 - Concepts of Physics Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3

Electives

This program requires at least 19 credits of approved electives.

Animal and Veterinary Science, B.S. (Equine Science Concentration)

This concentration is designed to provide a strong foundation in animal and equine science and its application to equine production and management for those interested in a career in the horse industry.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Equine Science Concentration

Students declaring the Equine Science concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 1030 - Equine Management Credits: 3

- ANSC 2000 - Equine Industry Career Preparation Credits:
- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 3250 - Equine Behavior and Welfare Credits: 3
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4

Supporting Agriculture/Math/Science

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- ANSC 2010 - Domestic Animal Metabolism Credits: 3 **OR** CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3

Electives

This program requires at least 23 additional credits of approved elective courses.

Animal and Veterinary Science, B.S. (Food Animal Industries Concentration)

This concentration provides students with a foundation in livestock production/management needed for a career in the livestock industry, and may also be suited to students needing greater flexibility with elective/transfer coursework.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Sciences Core

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

21 Required Credits:

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4

- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

15 Required Credits:

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Food Animal Industries Concentration

Students declaring the Food Animal Industries concentration are required to take the following courses:

Animal and Veterinary Sciences

- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 2070 - Livestock Behavior and Handling Credits: 2
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4

Supporting Agriculture/Math/Science

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4

- ANSC 2010 - Domestic Animal Metabolism Credits: 3 **OR** CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3 **OR** REWM 2000 - Principles of Rangeland Management

Electives

a minimum of 26 credits of free electives are required to complete this program.

Animal and Veterinary Science, B.S. (Pre-Veterinary Medicine Concentration)

This concentration is designed to prepare students for application to Colleges of Veterinary Medicine, graduate school, or other pre-professional opportunities. Emphasis is placed on biology/pathobiology, chemistry/physical, and biomedical sciences.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Animal and Veterinary Science Core - Pre-vet

All students completing a degree in Animal & Veterinary Sciences will take the following courses as a core. These courses are designed to introduce shared animal science and pre-veterinary medicine disciplines and establish a strong baseline knowledge for students interested in animal fields.

Animal and Veterinary Sciences

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4630 - Topics and Issues in Animal Science Credits: 3 **OR** PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Supporting Math/Science

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Pre-Veterinary Medicine Concentration

Required Courses

Students declaring the Pre-Veterinary Medicine concentration are required to take the following courses:

- MICR 2021 - General Microbiology Credits: 4 **OR** MOLB 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PATB 2220 - Pathogenic Microbiology Credits: 3

Pathobiology

Minimum of 6 Credits from the following:

- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4300 - Microscopic Anatomy Credits: 3
- PATB 4500 - Veterinary Parasitology Credits: 4
- PATB 4710 - Medical Virology Credits: 3

Animal Science

Minimum of 3 Credits from the following:

- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 4050 - Animal Growth and Development Credits: 3
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3

Supporting Math/Science/Chem

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4 **OR** MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

- STAT 4015 - Regression Analysis Credits: 3

OR STAT 4025 - Design and Analysis of Experiments I Credits: 3

Electives

At least 9 hours of approved electives are required for this program.

Biology, B.S.

The Bachelor of Science degree in Biology is designed to provide a thorough foundation in biology as well as other supporting areas of physical and life sciences and mathematics while providing flexibility and student choice.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Information

The biology major is designed for students interested in obtaining a broad education in biological sciences. It enables students to combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the major. On completion of the core requirements for the major, specific courses selected to complete the major may vary according to students' interests and are worked out by consultations between student and adviser. The requirements for a Bachelor of Science degree in biology are as follows:

A grade of C or better is required in all major classes.

The degree program is administered by the Department of Botany.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Course Requirements

Lower Division Courses: 42 Hours

- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4

OR

- CHEM 1000 - Introductory Chemistry Credits: 4

- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4

Foundational Biology

Choose two from the following:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

- MICR 2021 - General Microbiology Credits: 4

- MOLB2021 also fulfills this course requirement

Data Science Course: 3 Hours

Choose one from the following:

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3

Upper Division Courses: 18 Hours

- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

Biology, Ecology and Evolution Concentration, B.S.

Students will receive the academic training to become environmental consultants and educators, ecologists and natural resource managers,

conservation scientists, and research technicians in academic or government agencies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

The Department of Botany offers the Ecology and Evolution Concentration for Biology majors. This concentration will prepare students for a career or further graduate study. In addition to core concepts and theories, this concentration will teach students important skills that are required in the workforce, including organism identification, quantitative reasoning, data analysis, and scientific communication. Students also will have opportunities to participate in faculty research projects, which will train them for graduate research, careers in scientific discovery, or any endeavor where critical thinking and problem solving are essential components of the vocation.

To fulfill the requirements of the concentration, students will select five courses that meet a minimum of 15 credit hours in addition to what is required for the Biology Major. These will be selected from a variety of upper-division (3000-4000) courses that satisfy their individual interests (listed below).

Students must select:

- one course in organismal biology (A),
- one course in ecology (B),
- one course in evolution (C),
- any one additional course from these three categories,
- and one fourth-year capstone course (D).

Students who concentrate in Ecology and Evolution should plan to take LIFE3500 - Evolutionary Biology in their third year to be able to take an additional evolution course before graduating. All courses listed below will count toward this concentration. However, there are many other excellent courses offered across campus that are relevant to this concentration. Students can obtain approval to take other courses that are not included on the list below to satisfy the requirements of the concentration.

List of Potential Courses

A. Organismal Biology

- BOT 3600 - Plant Diversity and Systematics Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- BOT 4360 - Mushrooms of the Rocky Mountains Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4
- ZOO 4540 - Invertebrate Zoology Credits: 4
- BOT 4395 - Symbiosis of Forest Ecosystems Credits: 3

B. Ecology

- BOT 4700 - Vegetation Ecology Credits: 4
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4650 - Tropical Field Ecology Ecuador Credits: 4

- BOT 4280 - Paleobotany Credits: 4

OR

- GEOL 4280 - Paleobotany Credits: 4

- BOT 4780 - Biogeochemistry Credits: 3
- BOT 4235 - Marine Biology Credits: 3
- BOT 4200 - Plant-Microbe Interactions Credits: 3

C. Evolution

- BOT 4790 - Special Topics in Ecology Credits: 1-3 (Macroevolution)
- BOT 4790 - Special Topics in Ecology Credits: 3 (Evolution of development)
- BOT 4790 - Special Topics in Ecology Credits: 3 (Evolution seminar)

- BOT 5060 - Fundamental Concepts in Evolution Credits: 3

OR

- ZOO 5060 - Fundamental Concepts in Evolution Credits: 3

D. Senior Capstone Course

- BOT 4444 - Biology Capstone Credits: 3

OR

- BOT 4965 - Undergraduate Research in Botany Credits: 1-10

Botany, B.S.

The Bachelor of Science degree in Botany is designed to provide a thorough foundation in botany as well as other supporting areas of physical and life sciences and mathematics.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students

should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Lower Division Courses: 41-42 Hours

Students take introductory courses in biology, chemistry, physics, and mathematics. These courses provide the foundation for more advanced work in upper division biology courses and contribute to a more comprehensive understanding of biological processes.

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

OR

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3

OR

- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Upper Division Courses: 40-42 Hours

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- BOT 3600 - Plant Diversity and Systematics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- LIFE 3050 - Genetics Credits: 4
- LIFE 3500 - Evolutionary Biology Credits: 3
- BOT 4280 - Paleobotany Credits: 4

OR

- BOT 4200 - Plant-Microbe Interactions Credits: 3

- BOT 4780 - Biogeochemistry Credits: 3
- BOT 4775 - Forest Ecology Credits: 4
- BOT 4550 - Computational Biology Credits: 4

OR

- BOT 5600 - Ecological Modeling Credits: 3

- BOT 4700 - Vegetation Ecology Credits: 4
- BOT 4444 - Biology Capstone Credits: 3

OR

- BOT 4965 - Undergraduate Research in Botany Credits: 1-10

BOT Elective Requirement: 4 Hours

Choose 4 credit hours from the following:

- BOT 3000-BOT 5999

Design, Merchandising and Textiles - Apparel Design and Product Development Concentration, B.S.

Allows students to develop the technical and creative skills necessary for the development of apparel and textile products from concept to finished product.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Apparel Design and Product Development Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2175 - Fashion Illustration Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 2270 - Advanced Apparel Construction Credits: 3

- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3174 - Flat Pattern Design Credits: 3
- FCSC 3175 - Apparel Design Through Draping Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4176 - Historic Clothing Credits: 3
- FCSC 4178 - Fiber Arts Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3
- FCSC 4185 - Product Development and Technology Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3
- FCSC 4960 - International Study Tour FCS Credits: 3 **OR** FCSC 4970 - Design and Merchandising Internship

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- AGEC 1010 - Principles of Macroeconomics Credits: 3

OR

- AGEC 1020 - Principles of Microeconomics Credits: 3
- ART 1005 - Drawing I Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

OR

- PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

Design, Merchandising and Textiles - Interior Design Concentration, B.S.

Prepares students to creatively, effectively, and sustainably solve design problems for professional practice in residential and commercial interior design.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3

- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Interior Design Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3180 - Contract Design I Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 3188 - Interior Design Studio II Credits: 3
- FCSC 3288 - Environmental Psychology and Inclusive Design Credits: 1
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3

- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3
- FCSC 4188 - Contract Design II Credits: 3
- FCSC 4288 - Professional Practice and Advanced Interiors Studio Credits: 4
- FCSC 4960 - International Study Tour FCS Credits: 3

OR

- FCSC 4970 - Design and Merchandising Internship Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3
- ARE 3030 - History of Architecture Credits: 3
- ART 1005 - Drawing I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4
- ECON 1000 - Global Economic Issues Credits: 3

OR

- AGEC 1010 - Principles of Macroeconomics Credits: 3

OR

- AGEC 1020 - Principles of Microeconomics Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

Design, Merchandising and Textiles - Merchandising Concentration, B.S.

Offers knowledge and application of business principles within the fashion and interior industries; including retailing, sourcing, and marketing for apparel and interior products.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Merchandising Required Courses

Grade C or above required.

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1175 - Design Communication Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1185 - Introduction to Design, Merchandising and Textile Industry Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2185 - Trend Forecasting and Analysis Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 2210 - Fashion Show Event Planning Credits: 2
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3185 - Product Development Through Design Thinking Credits: 3
- FCSC 4160 - Merchandising Strategies and Technology Credits: 3
- FCSC 4171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 4172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 4176 - Historic Clothing Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 4182 - Env Sustainability in DMT Credits: 3

- FCSC 4960 - International Study Tour FCS Credits: 3 **OR** FCSC 4970 - Design and Merchandising Internship Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade C or above required.

- FCSC 3110 - Personal Finance Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- ACCT 2010 - Principles of Accounting I Credits: 3
- AGEC 1010 - Principles of Macroeconomics Credits: 3 **OR** AGEC 1020 - Principles of Microeconomics Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4 **OR** CHEM 1020 - General Chemistry I Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- SOC 1000 - Sociological Principles Credits: 3 **OR** PSYC 1000 - General Psychology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

All Design, Merchandising, and Textiles majors are required to complete a three-credit-hour internship, international study tour, or study abroad program.

A minor in Entrepreneurship or Professional and Technical Selling through the College of Business is recommended for students in this concentration.

Human Development and Family Science (B.S.) - Family and Consumer Sciences Teacher Certification Concentration

Leads to certification/licensure to teach family and consumer sciences (FCS) in secondary schools.

Program Information

This program is made possible through a partnership agreement with UW Family and Consumer Sciences, Colorado State University (CSU) Family and Consumer Sciences program and the CSU Center for Educator Preparation. While meeting the requirements for the Human Development and Family Sciences concentration, students will use electives from other FCS concentrations to prepare them to teach family and consumer sciences in middle or secondary schools. By participating in this partnership, students earn dual bachelor's degrees - one from UW and one from CSU. Students must earn a minimum of 154 credit hours between the two programs (minimum of 120 at UW and a minimum of 34 at CSU) in order to be awarded a degree from each institution. Additional semesters will be necessary to fulfill the requirements of both degrees.

Students must meet all entry requirements at UW and CSU. The CSU licensure program requires students to earn a C or above in all content courses and teacher licensing courses, and a passing score on the appropriate licensing exam. Therefore, a grade of C or above must be earned in all UW courses and an overall 2.750 GPA be maintained for transfer to CSU to fulfill their program requirements. Upon completion of the UW portion, students will then take the remaining courses needed to meet Wyoming and Colorado certification/licensure requirements at CSU in Ft. Collins, Colorado. In their last semester,

if they so choose, Wyoming students may complete their student teaching requirements in a Wyoming FCS school classroom with supervision by a licensed FCS teacher educator. In addition to earning dual degrees, students meet the requirements to apply for certification/licensure in Wyoming and in Colorado. Both licenses are reciprocal in many other states.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Development and Family Sciences Required Courses

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3

OR

- FCSC 1170 - Introduction to Apparel Construction Credits: 3
- FCSC 1180 - Applied Design Credits: 3

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4125 - Professional Practices in Human Development and Family Sciences Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

Additional Required Courses

- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4
- COMM 1030 - Interpersonal Communication Credits: 3
- ECON 1000 - Global Economic Issues Credits: 3

OR

- ECON 1010 - Principles of Macroeconomics Credits: 3

OR

- ECON 1020 - Principles of Microeconomics Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3

OR

- HIST 1221 - U.S. From 1865 Credits: 3
- LIFE 1002 - Discovering Science Credits: 3

OR

- LIFE 1003 - Current Issues in Biology Credits: 4

OR

- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Additional Concurrent and CSU Coursework

After completion of UW coursework, three additional semesters are required for completion of this teacher certification option. The first semester will require concurrent enrollment at UW and CSU. Required UW course FCSC 4117 (online - 3 credit hours) will be taken while enrolled at CSU to preserve WEU eligibility. Four additional credit hours must be transferred to UW from the second and third semesters' coursework at CSU to meet UW's 120 credit hour graduation requirement.

First Semester

Concurrent Fall Semester UW/CSU

- EDUC 331 - Educational Technology Credits: 2

- EDUC 340 - Literacy and the Learner - Phase I - RL Credits: 3 (Not included in WUE tuition)

- EDUC 350 - Instruction I: Individualization/Mgt - Phase II - TL Credits: 3

- EDUC 386 - Practicum - Instruction I - Phase II - TL 1

- EDCT 451 - Methods, FCS Education Credits: 4

- FCSC 4117 - Understanding Community Leadership Credits: 3 (online from UW)

Second Semester

Spring Semester at CSU

- EDUC 450 - Instruction II: Standards/ Assessment - Phase III - T Credits: 4

- EDUC 486 - Practicum - Instruction II - Phase III - TL 1

- FACS 479 - Colloquium - FCS Credits: 2

Complete one of the following and transfer it to UW:

- A course from Art/Humanities (Choose one: E140 - The Study of Literature, PHIL100 - The Appreciation of Philosophy, or TH141 - Introduction to Theater) Credits: 3

OR

- HES 145 Health and Wellness Credits: 3

Final Semester

Fall Semester at CSU

- EDCT 485 - Student Teaching - Phase IV - TL Credits: 11

- ECDT 492 Seminar - Professional Relations - Phase IV - TL Credits: 1 (Transfer to UW)

Total UW Degree Minimum: 120 Hours

Total CSU Degree Minimum: 34 Hours

Total for Both Degrees: 154 Hours

Additional Requirements

Students must satisfactorily complete a mandatory security screen (background check).

Additional Requirements

Students must satisfactorily complete a mandatory security screen (background check).

Human Development and Family Science (B.S.) - Professional Child Development Concentration

Prepares students for teaching and administrative positions in early childhood development and care.

Program Information

The Professional Child Development concentration is offered by online delivery only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses Before Entry

Students must complete the three courses listed below prior to entry.

- EDEC 1020 - Introduction to Early Childhood Education Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Professional Child Development Required Courses After Entry

Grade of C or above required.

- FCSC 2050 - Safety, Nutrition & Health in Early Childhood Programs Credits: 2
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3

OR

- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3
- FCSC 4130 - Internship in Child Development Credits: 6-8

OR

- FCSC 4131 - Administration Internship in Child Development Credits: 6-8
- FCSC 4138 - Family Stress and Coping Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following

- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3

Additional Required Courses

- EDEC 3000 - Observing Young Children Credits: 3
- EDEC 3220 - Curriculum and Learning Environments in Early Childhood Education Credits: 3
- EDEC 4320 - Oral and Written Language Acquisition Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3

OR

- ENGL 4075 - Writing for Non-Profits Credits: 3
- PSYC 4310 - Developmental Psychopathology Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Students must satisfactorily complete a mandatory security screen (background check).

All Professional Child Development students are required to complete a 6-8 credit hour internship.

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and

the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Students must satisfactorily complete a mandatory security screen (background check).

All Professional Child Development students are required to complete a 6-8 credit hour internship.

Human Development and Family Sciences, B.S.

Prepares students to work in a variety of critical fields that serve individuals and families across the lifespan, including: children, youth, older adult and family support programs, community and governmental agencies, and higher education.

Majors may choose the Human Development and Family Science (B.S.) - Professional Child Development Concentration or Human Development and Family Science (B.S.) - Family and Consumer Sciences Teacher Certification Concentration

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Development and Family Sciences Required Courses

Grade of C or above required.

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4125 - Professional Practices in Human Development and Family Sciences Credits: 3
- FCSC 4132 - Internship in Human Development and Family Sciences Credits: 4-6

OR

- FCSC 4130 - Internship in Child Development Credits: 6-8

OR

- FCSC 4131 - Administration Internship in Child Development Credits: 6-8
- FCSC 4135 - Program Evaluation Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3

- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Nutrition and Food

Grade of C or above required.

Complete one of the following:

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3

Additional Required Courses

- ENGL 4010 - Technical Writing in the Professions Credits: 3

OR

- ENGL 4075 - Writing for Non-Profits Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Upon declaring this major, students must satisfactorily complete a mandatory security screen (background check).

All Human Development and Family Sciences majors are required to complete a 4-6 credit hour internship.

Human Nutrition and Food (B.S.) - Dietetics Concentration

Provides the required coursework to pursue an approved post-graduation supervised practice experience (dietetic internship) to become a Registered Dietitian Nutritionist (RDN).

Program Introduction

The UW Didactic Program in Nutrition and Dietetics (DPND) is nationally accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics. Entrance into the DPND is made only through an application process. Each prospective DPND student will initially enter the Human Nutrition and Food major. It is recommended that students apply to the DPND in the spring semester of their sophomore year. The academic requirements and supervised practice experience must be completed before the student is eligible for the Registration Examination for Dietitians administered by the Commission on Dietetic Registration (CDR), the credentialing agency for the Academy.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses - Before DPND Admission

Students must complete the following courses with a minimum grade point average of 3.0 prior to DPND application.

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 1411 - Scientific Study of Food Lab Credits: 1
- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MOLB 2021 - General Microbiology Credits: 4

Also required:

- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3

Required Courses - After DPND Admission

In addition to USP and upper division requirements, students must complete the following courses after admission to the DPND while maintaining an overall grade point average of 3.0. Failure to maintain a grade point average of 3.0 could result in program probation and/or suspension.

Grade of C or above required

- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 3150 - Intermediate Foods Credits: 2
- FCSC 3152 - Food Systems Production Credits: 3
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3

- FCSC 4150 - Experimental Foods Credits: 3
- FCSC 4200 - Professionalism in Dietetics Credits: 3
- FCSC 4210 - Therapeutic Nutrition I: Nutrition Assessment and Diagnosis Credits: 4
- FCSC 4220 - Therapeutic Nutrition II Credits: 4
- FCSC 4230 - Therapeutic Nutrition Counseling Credits: 2

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade of C or above required.

Complete one of the following

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3

Additional Required Courses

Some courses may require grades of C or above. Consult your advisor.

- CHEM 2300 - Introductory Organic Chemistry Credits: 4

OR

- CHEM 2420 - Organic Chemistry I Credits: 4
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- MGT 2100 - Management and Organizations Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Human Nutrition and Food, B.S.

Prepares students for careers in human nutrition and the food industry as well as entry into graduate or health professional school.

Students in the Human Nutrition and Food major may choose to apply to the Didactic Program in Nutrition and Dietetics.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3

- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Human Nutrition and Food Required Courses

Grade of C or above required.

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 1411 - Scientific Study of Food Lab Credits: 1
- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3
- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- FCSC 4150 - Experimental Foods Credits: 3

Human Nutrition and Food Elective

Grade of C or above required.

Complete one of the following:

- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 3150 - Intermediate Foods Credits: 2
- FCSC 3152 - Food Systems Production Credits: 3

FCSC Core Elective in Design, Merchandising and Textiles

Grade of C or above required.

Complete one of the following:

- FCSC 1180 - Applied Design Credits: 3
- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3

FCSC Core Elective in Human Development and Family Sciences

Grade of C or above required.

Complete one of the following:

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3

Additional Required Courses

Some courses may require grades of C or above. Consult your advisor.

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

OR

- CHEM 2420 - Organic Chemistry I Credits: 4
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1

- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Additional Requirements

Electives may be needed to meet the university requirement of 42 upper division credit hours and the degree minimum of 120 overall credit hours. Electives should be selected in consultation with advisor and faculty mentor.

Microbiology, B.S.

The Interdepartmental Microbiology B.S. degree includes basic science, microbiology core, and elective courses selected from the main areas of medical or environmental microbiology, or molecular and cell biology.

Degree Requirements

This degree requires 121 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

The curriculum is designed to prepare graduates for the future by combining a firm foundation in the basic sciences with a central core of microbiology classes, followed by the opportunity for students to specialize in areas of microbiology suiting their individual interests via the selection of electives.

Prior to graduation, microbiology majors must complete the basic requirements and all microbiology core course requirements as listed below. Finally, to assure breadth of exposure in microbiology, students must complete 6 semester hours of microbiology electives. The microbiology curriculum is organized to provide students with the maximum flexibility in meeting their university studies program requirements.

Students pursuing the B.S. degree in microbiology who wish to pursue a dual major in both microbiology and molecular biology must satisfy the basic science/math and core/elective requirements in microbiology as well as those specified for the B.S. degree in molecular biology PLUS an additional 9 credits of electives in microbiology and/or molecular biology at the 4000/5000 level.

Course Requirements

Basic Sciences and Quantitative Reasoning: 40-42 Hours

- MATH 1450 - Algebra and Trigonometry Credits: 5

OR

- MATH 2200 - Calculus I Credits: 4

OR

- MATH 1400 - College Algebra Credits: 3

AND

- MATH 1405 - Trigonometry Credits: 3

- STAT 2050 - Fundamentals of Statistics Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

OR

- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

MICR Core Requirement: 37 Hours

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4

- PATB 2220 - Pathogenic Microbiology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PATB 4400 - Immunology Credits: 4

OR

- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- PATB 4710 - Medical Virology Credits: 3
- MICR 4321 - Microbiology Capstone Credits: 4

Take 2 credits total of any combination of the following 1-credit seminar courses:

- PATB 4150 - Seminar Credits: 1

OR

- MOLB 4050 - Student Seminar: Topics in ___ Credits: 1

OR

- MOLB 4051 - Departmental Seminar Credits: 1

OR

- MOLB 4052 - Summer Seminar Credits: 1

MICR Elective Requirement: 6 Hours

In addition to completing the required microbiology courses listed above, students must complete 6 hours of microbiology electives from any of the following lists.

Medical Microbiology

- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4001 - Epidemiology (Diseases in Population) Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4170 - Diseases of Wildlife Credits: 3
- MICR 4200 - Diagnostic Bacteriology Credits: 1
- PATB 4220 - Molecular Mechanisms of Bacterial Pathogenesis Credits: 3
- PATB 4240 - Disease Ecology Credits: 3
- MICR 4360 - Medical Entomology and Parasitology Credits: 4
- PATB 4500 - Veterinary Parasitology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3

Molecular and Cell Biology

- LIFE 3600 - Cell Biology Credits: 4
- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Environmental and Applied Microbiology

- MICR 3021 - Eukaryotic Microbes Credits: 3
- MICR 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MOLB 4540 - Microbial Diversity and Ecology Credits: 4

OR

- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

- MICR 4140 - Soil Microbiology Credits: 4
- BOT 4200 - Plant-Microbe Interactions Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- FDSC 4090 - Food Microbiology Credits: 3
- FDSC 4100 - Laboratory Techniques in Food Microbiology Credits: 1

Molecular Biology, B.S.

The Molecular Biology B.S. degree includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, cell biology, electives and research opportunities, in preparation for postgraduate studies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Additional Information

For the B.S. in Molecular Biology, a student, with assistance from their academic adviser, will design a program of study with General Science and Molecular Biology courses, including biochemistry, microbiology, genetics, cell biology and molecular laboratory methods. Additional courses may be selected to enhance competency in key Emphasis Areas such as Cell Biology and Molecular Genetics, Microbiology, or Preprofessional Health Sciences. Undergraduate research opportunities develop skillsets for graduate school, biotechnology employment or medical research.

Flexibility in course selection permits students to fulfill various requirements for postgraduate and professional schools. The molecular biology program is designed to prepare students for careers in molecular biological research, teaching, and medical or other health professional schools. Students have also progressed from a B.S. in Molecular Biology to careers in business, law, public health policy and genetic counseling.

MOLB Program Learning Outcomes (PLOs)

Students will acquire fundamental understanding of molecular biological processes, learn laboratory and analytical skills, and develop competency in oral and written communication of scientific results and reviews. The MOLB Program Learning Outcomes (PLOs) are listed in categories, followed by the Bloom's taxonomy level targeted by each PLO.

Fundamental principles in Molecular Biology

- Apply foundational concepts in molecular and cellular biology, biochemistry, microbiology and genetics in answering questions in formative activities or summative assessments. (Bloom 3)

- Use core molecular biological principles in comprehension of primary research articles and reviews. (Bloom 3, 6)
- Integrate molecular biological concepts with principles in related fields such as developmental biology, molecular genetics, plant biology, immunology, endocrinology, physiology, clinical biochemistry and genetic disorders in developing an interdisciplinary understanding of molecular mechanisms. (Bloom 6)

Laboratory, Experimental and Research Skills

- Describe and use methods for safe practices in performing laboratory methods, and accurately record and summarize experimental results in an organized manner. (Bloom 1, 2, 3)
- Create hypotheses and develop experimental designs to test them. (Bloom 6)
- Demonstrate the use of basic scientific and laboratory skills in modern microbiology and molecular biology and construct alternate approaches to solve experimental problems. (Bloom 3, 5)

Analytical, Computational and Interpretive skills

- Employ mathematical, statistical, and computational tools including online resources, in analyses of experimental data. (Bloom 4)
- Critically evaluate data from primary literature resources. (Bloom 6)
- Use evidence-based scientific reasoning skills to develop and express interpretations consistent with available data. (Bloom 3)

Communication, Diversity and Translation of Scientific Research

- Employ collaborative skills for working on problems and presentations in groups, with a goal of being inclusive for all learners, who may be diverse in academic background, physical abilities, geographical origin, or practical experiences. (Bloom 3)
- Demonstrate effective dissemination of ideas and experimental results to a broader community using diverse oral, written and digital formats appropriate for different target audiences. (Bloom 3)
- Evaluate effects of, and ethical issues related to, molecular genetic advances on society. (Bloom 5)

Course Requirements

General Science Requirement: 36 Hours

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

MOLB Core Requirement: 31-32 Hours

- MOLB 1050 - Genetic Engineering and Synthetic Biology Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- MOLB 3320 - Molecular Biological Methods Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

OR

- CHEM 4400 - Biological Chemistry Credits: 3

- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4053 - Communications in Molecular Biology Credits: 3
- MOLB 4440 - Microbial Genetics Credits: 3

OR

- MOLB 4450 - Cell and Developmental Genetics Credits: 3

- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4051 - Departmental Seminar Credits: 1

OR

- MOLB 4052 - Summer Seminar Credits: 1

MOLB Elective Requirement: 6 Hours

Courses from the following list that were not used to fulfill the MOLB Core Requirement may be applied

to the MOLB Elective Requirement; a maximum of 3 credits of MOLB 4010 may be counted toward the MOLB Elective Requirement.

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4050 - Student Seminar: Topics in ___ Credits: 1
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Molecular Biology Emphasis Areas

After discussing individual interests with a molecular biology adviser, a student should enroll in additional courses that will enhance preparation for a chosen career objective. Listed below are recommended courses that are not required but will further develop a student's skills and understanding in three Emphasis Areas.

Cell Biology and Molecular Genetics

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4

Microbiology

- MICR 2220 - Pathogenic Microbiology Credits: 3
- MICR 4130 - Mammalian Pathobiology Credits: 3
- MICR 4220 - Molecular Mechanisms of Bacterial Pathogenesis Credits: 3
- MICR 4360 - Medical Entomology and Parasitology Credits: 4
- MICR 4710 - Medical Virology Credits: 3
- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4400 - Immunology Credits: 4
- MOLB 4440 - Microbial Genetics Credits: 3
- MOLB 4460 - Microbial Physiology and Metabolism Credits: 3
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- MOLB 4680 - Signaling in Host-microbe Interaction Credits: 3

Preprofessional Health Sciences

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- MOLB 4450 - Cell and Developmental Genetics Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3
- MICR 2220 - Pathogenic Microbiology Credits: 3
- MICR 4710 - Medical Virology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PSYC 1000 - General Psychology Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3
- PSYC 2340 - Psychopathology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4280 - Introduction to Neuroscience Credits: 3

- ZOO 4340 - Developmental Biology and Embryology Credits: 4

Physiology, B.S.

Physiology is the science of how the body functions in health and disease. A degree in physiology provides excellent preparation for careers or graduate study in the health professions and biomedical research or related disciplines.

Additional Information

Physiology is the study of how animals work: how they breathe, feed, interact with their environment, and carry out many other activities and functions. Physiology is the knowledge that the health sciences are built on and so is especially important for students who may be thinking of becoming medical practitioners, veterinarians or health care professionals.

All courses in the major must be completed with a grade of "C" or better.

University Studies Program Requirements

The University Studies Program 2015

- FYS- First Year - Seminar Credits: 3
- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

Zoology and Physiology Department Requirements

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses:

(MATH 1450 may substituted for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

OR

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4
- LIFE 3050 - Genetics Credits: 4

Two Additional CHEM Courses:

*MOLB 3610 may be used as a CHEM elective, but cannot also count as a PHSO Core Elective.

*CHEM 3550 may be used as a CHEM elective, but cannot also count as a PHSO Core Elective

- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3020 - Environmental Chemistry Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

- CHEM 4050 - Solar Energy Conversion Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4400 - Biological Chemistry Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4 *

Physiology Core Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5

- ZOO 4100 - Scientific Communication Credits: 2

  (or approved C3 substitute) **AND**
- ZOO 4101 - Scientific Communication Lab Credits: 1

  (or approved C3 substitute)

  OR
- ZOO 4200 - Applied Principles of Science Communication Credits: 3

  (or approved USP C3 substitute)

Physiology Core Electives

A minimum of 10 of the 18 Physiology Core Elective credits must be exclusive to the PHSO major.

At the end of this program students will have a thorough knowledge of physiology, will be well prepared to enter health sciences or graduate education, and will have a range of skills attractive to employers.

Choose a Total of 18 Credits From:

**cannot count towards PHSO electives if used as a CHEM requirement in the Foundational Courses

- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3

- ANTH 4230 - Forensic Anthropology Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3 **
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3038 - Exercise Psychology Credits: 3
- KIN 4042 - Advanced Biomechanics Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MICR 4001 - Epidemiology (Diseases in Population) Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4 **
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4001 - Epidemiology (Diseases in Population) Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4140 - Principles of Toxicology Credits: 3
- PATB 4400 - Immunology Credits: 4
- PATB 4710 - Medical Virology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- SOC 4160 - Sociology of Aging Credits: 3
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology Credits: 4

- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ZOO 4736 - Mechanisms of Hormone Action Credits:
- ZOO 4737 - Mammalian Genomics Credits:
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- ZOO 5685 - Neurophysiology Credits: 3

Plant Production and Protection, B.S.

The Plant Production and Protection degree prepares students for careers in agriculture, natural resources, environmental and life sciences, and advanced graduate studies in the plant sciences.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Information

The Department of Plant Sciences offers a Bachelor of Science degree in Plant Production and Protection, with four optional concentrations and four minors. Optional concentrations for Plant Production and Protection majors are:

- Agronomy
- Horticulture
- Integrated Pest Management
- Agroecology and Evolution

Minors available for students pursuing other majors at UW are: Agronomy, Agroecology, Horticulture, and Plant Protection. These minors allow students within many bachelor's programs to obtain an added emphasis in areas that enjoy strong employment opportunities.

A B.S. degree in Plant Production and Protection prepares students for careers in agriculture, natural resources, environmental and life sciences and for advanced graduate studies in specific subdisciplines within these areas. It is a broad, interdisciplinary, undergraduate curriculum that combines and integrates courses in the crop, horticulture, disease, weeds, soil, and insect sciences and is supported by a science-based curriculum and general education. Flexibility is built into the curriculum to readily accommodate students seeking to pursue an emphasis or obtain a minor in a specific discipline. To that end the breadth of the curriculum is balanced with greater depth in biology, chemistry, crop science, entomology, environmental studies, natural resource management, soil science, plant pathology, weed science, horticulture, turf management, pre-veterinary medicine, rangeland ecology and watershed management, animal science, microbiology, and molecular biology. A liberal number of electives permits design of a program that best meets individual career and educational objectives. The Plant Production and Protection program is well suited for students who possess a strong interest in,

and an aptitude for, science, agriculture, the environment, life sciences, or natural resources.

The core curriculum is comprised of freshman- through senior-level courses that illustrate dynamic and complex interactions of plants, soils, and plant pests (diseases, insects, weeds) with the environment. Academic training is enhanced with experiential learning through research apprenticeships, internships, field studies, and a special Plant Sciences Capstone course. Special emphasis is given to development of critical thinking and communication skills, problem solving, and application of science. It is an interdisciplinary and highly practical degree program designed to prepare students for "real world" situations.

Plant Production and Protection B.S. degree recipients are prepared for careers with private and public institutions and agencies in such areas as: agricultural consulting, production or sales, research, product development, education, extension education, international programs, and scientific and technological support. These careers include but are not limited to: soil scientist, conservationist, entomologist, consultant, plant scientist, integrated pest management specialist, ecologist, research associate or technician, agronomist, biotechnician, and agroecologist. Degree recipients are also prepared for graduate education in biological and environmental sciences.

The combined Plant Sciences, B.S./M.S. QuickStart program enables highly qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. Please see additional information under the Plant Sciences Graduate Study section or online at http://www.uwyo.edu/plantsciences/.

Course Requirements

Core Requirements (required of ALL degree recipients): 50 Hours

- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4
- MATH 1400 - College Algebra Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

Choose one from ANSC 1010, ENTO 1000, or ENTO 1001 (ENTO 1001 preferred if available):

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

- SOIL 2010 - Introduction to Soil Science Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

Choose one from STAT 2050 or LIFE 2100:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- LIFE 2100 - Intro Research and Analysis Credits: 4

- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- LIFE 3050 - Genetics Credits: 4

Choose one from PLNT 3000, SOIL 4140, or SOIL 4160:

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

- PLNT 4990 - Plant Sciences Capstone Credits: 3

Practical Experience (must take 6 credit hours from the following): 6 Hours

- PLNT 4820 - Plant Sciences Seminar Credits: 1
- PLNT 4920 - Research Apprenticeship Credits: 1-2
- PLNT 4930 - Internship in Plant Sciences Credits: 1-3
- PLNT 4960 - Plant Sciences Field Studies Credits: 2
- PLNT 4900 - Undergraduate Teaching Practicum Credits: 1-2
- AGRI 4520 - Field Practicum: Extension Work Credits: 1-4

Plant Sciences Electives: 15 Hours

(Select 15 credit hours from PLNT courses, at least 12 of which are upper division)

Supporting Electives: 9 Hours

Select 9 hours of upper division courses from those with the following course prefixes:

- AGEC (Agricultural Economics)
- ANSC (Animal Science)
- BIOL (Biology)
- BOT (Botany)
- ENR (Environment and Natural Resources)
- ENTO (Entomology)
- FDSC (Food Science)
- GIST (Geospatial Information Science and Technology)
- LIFE (Life Sciences)
- MICR (Microbiology)
- MOLB (Molecular Biology)
- REWM (Rangeland Ecology and Watershed Management)
- SOIL (Soil Science)

Free Electives: 25 Hours

Remaining credit hours fulfilled by USP requirements: 15 Hours

Optional Concentrations

Although not required, students may choose to specialize in any of the four optional concentrations below as part of their B.S. in Plant Production and Protection. In order for the concentration to be official, students must "opt in" and add the desired concentration to their degree evaluation.

Agronomy Concentration: 24 Hours

The Agronomy concentration focuses on the intricacies of agronomic crop production along with pest management, genetics, soil science, and other related topics. This is a broad area of study that can be tailored to the student's particular interests. Careers in production, consulting, and pest management abound in the public and private sectors of agriculture. Students learn the ultimate goal of promoting more efficient and sustainable agronomic crop production practices. Skills learned include written and oral communication; sciences such as ecology, chemistry, and genetics; and practical applications such as computer technologies, geographic information systems, soil and water analyses, plant health diagnostics, and general best management practices.

Required: 16 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

- PLNT 2200 - Field Crop Production Credits: 3

OR

- PLNT 4220 - Crop Yield Physiology Credits: 3

At least 8 additional credit hours from the following: 8 Hours

- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- PLNT 4180 - Greenhouse Crop Production Credits: 4
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4140 - Soil Microbiology Credits: 4

Horticulture Concentration: 21 Hours

Students in the Horticulture concentration learn about the various horticultural commodities and growing operations. Choose from classes including greenhouse

crop production, plant propagation, seed technology, organic food production, plant breeding, and allied subjects such as irrigation technology and pest management including plant pathology and weed science. Students may be surprised at the number of career opportunities available in horticulture! These include vegetable and small fruit production, greenhouse management, controlled environment crop production, landscape plants and management, new variety breeding and production, and urban tree care, among many others.

Required: 15 Hours

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3

- PLNT 4180 - Greenhouse Crop Production Credits: 4

OR

- PLNT 4200 - Greenhouse Design and Management Credits: 3

At least 6 additional credit hours from the following: 6 Hours

- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1
- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3

Integrated Pest Management Concentration: 25 Hours

IPM as it is commonly known, melds all aspects of plant pest management under one umbrella. It uses the sciences of plant pathology, entomology, and weed science under the broader plant diagnostics field. The IPM concentration emphasizes understanding pest biology and ecology of the ecosystem as the foundation for making pest management decisions that minimize negative impacts on health and the environment. Students in the IPM concentration will find careers in private consulting, field diagnostics, research and demonstration, and product sales, as well as public sector work in invasive species management.

Required: 16 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4400 - Invasive Plant Ecology Credits: 3

Choose at least one of the following:

- BOT 3600 - Plant Diversity and Systematics Credits: 4
- BOT 4680 - Taxonomy of Vascular Plants Credits: 4
- ENTO 4684 - Classification of Insects Credits: 4
- REWM 4300 - Grass Taxonomy Credits: 3

At least 9 additional credit hours from the following: 9 Hours

- PLNT 4020 - Sustainable Agriculture Credits: 3

- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4884 - Insect Behavior Credits: 3
- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3

Agroecology & Evolution Concentration: 21 Hours

Students in this concentration are trained in the ways plants and associated organisms evolve in response to human-impacted environments, and how agroecosystems may change as a result of plant management. Courses include genetics, plant breeding, agroecology, and crop production along with ecology, soil sciences, and others. This concentration provides excellent preparation for graduate school in plant sciences, and also prepares students for careers in conservation, sustainable agriculture, and crop production.

Required: 13 Hours

- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4400 - Invasive Plant Ecology Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

At least 8 additional credit hours from the following: 8 Hours

- PLNT 3220 - Plant Pathology Credits: 3

- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4520 - Plant Breeding Credits: 3
- BOT 3100 - Plants and Civilization Credits: 3
- BOT 3600 - Plant Diversity and Systematics Credits: 4
- BOT 4700 - Vegetation Ecology Credits: 4
- ENTO 4300 - Insect Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

Plant Production and Protection/Environment and Natural Resources Program, B.S.

Students interested in the environment and natural resources can pursue the B.S. in Plant Production and Protection/ENR. This degree is offered in conjunction with the Haub School of Environment and Natural Resources.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Information

See the ENR Information and Advising Guide for details.

Ranch Management & Agricultural Leadership, B.S

This multidisciplinary program integrates classroom learning with practical experience, connecting students with producers, agency personnel, and industry professionals. The emphasis on leadership is intra-curricular and students will be well versed on the importance of behavioral skills necessary for career success.

Minimum Course Requirements

A minimum of 42 credits must be at the 3000 and 4000 level for graduation. At least 30 of the 42 credits must be earned from UW. Total 122 credit hours.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Communication 2

- ERS 3000 - Energy Project Outreach and Communications Credits: 3

Communication 3

- RMAL 4760 - Organizational Leadership in Agriculture Credits: 3

Quantitative Reasoning

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Physical & Natural World (1)

- LIFE 1010 - General Biology Credits: 4

Physical & Natural World (2)

- CHEM 1000 - Introductory Chemistry Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

Human Culture (2)

- AGEC 1020 - Principles of Microeconomics Credits: 3

or

- ECON 1020 - Principles of Microeconomics Credits: 3

Ranch Management & Agricultural Leadership

- RMAL 1010 - Introduction to Ranch Management & Agricultural Leadership Credits: TO
- RMAL 2040 - Quantitative Tools for Managing Agricultural Resources Credits:
- RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning Credits:

- RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt Credits:
- RMAL 4000 - Advanced Ranch and Rangeland Problem Solving and Planning Credits:
- RMAL 4800 - Leadership and Collaboration Strategies to Address Contemporary Challenges in Agriculture Credits:
- RMAL 4970 - Agriculture Related Operations Internship Credits: OR
- RMAL 4971 - Agency or NGO Internship Credits: OR
- RMAL 4972 - Ranch Management Internship Credits: OR
- RMAL 4990 - Topics: Ranching in the West Credits: OR

Required 4 times

Agricultural Business

Variable credit hours are dependent upon the elective hours the student chooses to take.

- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

Animal Production

- ANSC 2020 - Feeds and Feeding Credits: 4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4220 - Advanced Beef Production and Management Credits: 3

OR

- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4540 - Principles of Animal Breeding Credits: 3

Plant Production and Rangeland Management

- SOIL 2010 - Introduction to Soil Science Credits: 4
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4700 - Forage Crop Science Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4

Leadership

- LEAD 3110 - Foundations for Leadership Credits: 3

OR

- AGRI 4700 - Elements of Leadership Credits: 3

Total: 122 Hours without internship credits

Rangeland Ecology and Watershed Management, B.S.

Rangeland Ecology and Watershed Management provides you with the knowledge, skills, and tools to understand and manage range- and wild-lands in a diversity of landscapes and ecosystems.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Course Requirements

Core Requirements (Courses must be completed with a grade of C or better): 58 Hours

Choose one from LIFE 2022 or LIFE 2023:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

- LIFE 3400 - General Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4

- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4530 - Seminar Credits: 1
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- AGEC 4700 - Economics of Range Resources Credits: 3

Choose one from RNEW 4130 or GIST 2310:

- RNEW 4130 - Applied Remote Sensing Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Additional Requirements (15 of these credit hours fulfill USP requirements): 18 Hours

- CHEM 1000 - Introductory Chemistry Credits: 4
- ECON 1020 - Principles of Microeconomics Credits: 3 - *AGEC 1020 also fulfills this course requirement*
- LIFE 1010 - General Biology Credits: 4
- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Free Electives: 29 Hours

Remaining credit hours fulfilled by USP requirements: 15 Hours

Wildlife and Fisheries Biology and Management, B.S.

Provides a solid foundation in the theory and techniques involved in the management, conservation, and captive propagation of wildlife and fish populations. Includes both classroom and field experiences in a Rocky Mountain setting.

Additional Information

Wildlife and Fisheries Biology and Management is a professional degree designed to prepare students for state, federal, and other positions in resource management and conservation biology. The degree provides students with knowledge of the natural world, understanding of processes governing dynamics of wildlife and fish populations, as well as an appreciation of human-mediated effects on wildlife and fish populations. A student graduating with this degree will be familiar with the theory of resource management as well as with methods used to determine population status, habitat quality, and conservation. In Wyoming the abundance of wild animals and pristine habitats provide a unique natural laboratory for studying the responses of wildlife and fish populations to changing climates and habitats.

A student graduating with a degree in WFBM will have comprehensive knowledge of wildlife and fisheries biology and management, will have earned a degree that is compatible with the requirements for professional certification with the American Fisheries Society or the Wildlife Society,

and will have a range of knowledge and skills that are valuable to potential employers.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Zoology and Physiology Department Requirement

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

(MATH 1450 may substitute for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4

(may substitute MATH 2350)

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- LIFE 2100 - Intro Research and Analysis Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

- GEOL 1100 - Physical Geology Credits: 4

OR

- PHYS 1110 - General Physics I Credits: 4

OR

- SOIL 2010 - Introduction to Soil Science Credits: 4

- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

Data Science course

Choose ONE course from the following:

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3

GIST 2150 - Intro to Programming in GIST

- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- ZOO 4530 - R Introduction for Wildlife Ecology Credits:

Core Required Courses

- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4970 - Internship in Wildlife Management Credits: 1
- ZOO 4100 - Scientific Communication Credits: 2 (or approved USP C3 substitute) **AND**
- ZOO 4101 - Scientific Communication Lab Credits: 1 (or approved USP C3 substitute)

OR

- ZOO 4200 - Applied Principles of Science Communication Credits: 3 **OR** (approved USP C3 substitute)

Options

Complete Terrestrial OR Aquatic Option

Aquatic Option

A minimum of 10 of the AQUATIC OPTION requirements listed below (ZOO 4330 and ZOO 4440 and ZOO 4430 and Restricted Electives) must be exclusive to the WFBM major.

REQUIRED COURSES

- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2

Restricted Electives

15 Credits of Electives from the following list:

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4300 - Wildlife Ecology and Management Credits: 5
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5
- SOC 3950 - Environmental Sociology Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- BOT 0000:5999
- ENR 0000:5999
- REWM 0000:5999

Terrestrial Option

A minimum of 10 of the TERRESTRIAL OPTION requirements listed below (BOT 4700 and ZOO 4300 and Restricted Electives) must be exclusive to the WFBM major.

REQUIRED COURSES

- BOT 4700 - Vegetation Ecology Credits: 4
- ZOO 4300 - Wildlife Ecology and Management Credits: 5

Restricted Electives

14 Credits of Electives from the following list:

- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2
- ZOO 4440 - Limnology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- BOT 0000:5999
- ENR 0000:5999
- REWM 0000:5999

Zoology, B.S.

Zoology majors explore form, function, behavior, ecology, evolution and conservation of animals and hone analytical, writing, and research skills for diverse careers from graduate school to state and federal agencies, consulting, and nonprofits.

Additional Information

Zoology is the study of animals: their structure, physiology, development and evolution. One of the enduring fascinations of zoology is that we can learn so much about ourselves and our environment by studying what our fellow creatures do.

At the end of this program students will have a comprehensive knowledge of zoology, will be well prepared for graduate education, and will be equipped to enter any of the many employment opportunities that are available.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Zoology and Physiology Department Requirements

(for B.S. in Physiology, Wildlife & Fisheries Biology & Management, or Zoology)

Complete 6 credit hours of Department of Zoology and Physiology Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

(MATH 1450 may substitute for MATH 1400 and MATH 1405)

- MATH 1400 - College Algebra Credits: 3
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- LIFE 2100 - Intro Research and Analysis Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5

OR

- CHEM 2300 - Introductory Organic Chemistry Credits: 4

OR

- CHEM 2420 - Organic Chemistry I Credits: 4

OR

- CHEM 2440 - Organic Chemistry II Credits: 4

OR

- CHEM 3020 - Environmental Chemistry Credits: 3

OR

- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5

OR

- CHEM 4400 - Biological Chemistry Credits: 3
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 3050 - Genetics Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2 (or approved USP C3 substitute)

AND

- ZOO 4101 - Scientific Communication Lab Credits: 1 (or approved USP C3 substitute)

OR

- ZOO 4200 - Applied Principles of Science Communication Credits: 3 (or approved USP C3 substitute)

Advanced Zoology Course

* if more than one of the required courses is completed, additional courses can count towards the Zoology Approved Core Electives below.

One of:

- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4

Zoology Approved Core Electives

A minimum of 10 of 18 Zoology Approved Core Electives must be exclusive to the ZOOL major.

Choose a total of 18 credits from:

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4300 - Wildlife Ecology and Management Credits: 5
- ZOO 4310 - Fisheries Management Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4430 - Limnology Laboratory Credits: 2
- ZOO 4440 - Limnology Credits: 3
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- BOT 4235 - Marine Biology Credits: 3
- BOT 4550 - Computational Biology Credits: 4
- BOT 4664 - Special Topics in Evolution Credits: 1-4
- BOT 4790 - Special Topics in Ecology Credits: 1-3
- GEOG 3150

- GEOG 3480 - Environmental Change Credits: 3
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4682 - Insect Anatomy and Physiology Credits: 5
- ENTO 4678 - Aquatic Entomology Credits: 3
- ENTO 4684 - Classification of Insects Credits: 4
- PATB 4170 - Diseases of Wildlife Credits: 3
- PATB 4310
- PATB 4360
- PATB 4710 - Medical Virology Credits: 3

Minor

Agricultural Business Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3

- AGEC 4050 - Agribusiness Marketing Credits: 3

OR

- MKT 2100 - Introduction to Marketing Credits: 3

- AGEC 4060 - Agribusiness Management Credits: 3
- ACCT 2010 - Principles of Accounting I Credits: 3
- 6 additional hours in upper-level agricultural economics courses;
- 6 hours in supporting agriculture courses.

Agroecology Minor

The Agroecology minor is ideal for students interested in how plant production systems interact with the surrounding ecosystem. This minor complements many majors related to land management and ecology.

Minimum Requirements: 20 Hours

Required: 11 Hours

- PLNT 1000 - Agroecology Credits: 4

Choose two from PLNT 3030, LIFE 2023, or SOIL 2010:

- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4

9 additional credit hours from the following: 9 Hours

- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4400 - Invasive Plant Ecology Credits: 3
- BOT 3100 - Plants and Civilization Credits: 3
- ENTO 4300 - Insect Ecology Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

Agronomy Minor

Agronomy minor students train for careers in crop production and management, consulting, sales, and other areas of modern

agriculture. Courses include crop & soil management; weed, insect, and disease management; and others.

Minimum Requirements: 19 Hours

Required: 11 Hours

- PLNT 1000 - Agroecology Credits: 4
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4

8 additional credit hours from the following: 8 Hours

- PLNT 2200 - Field Crop Production Credits: 3
- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4220 - Crop Yield Physiology Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3
- PLNT 4700 - Forage Crop Science Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

Animal and Veterinary Science, Animal and Veterinary Science Minor

This minor provides a foundational background in animal and veterinary science for students interested in livestock and equine production, but with a primary degree program outside of ANVS.

Courses Required:

- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4
- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

At Least One of the Following:

- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Animal and Veterinary Science, Equine Science Minor

This minor provides a foundational background in equine science and its application to equine production and management for students interested in the horse industry, but with a primary degree

program outside of Equine Science.

Core Courses

12 total credit hours

- ANSC 1030 - Equine Management Credits: 3
- ANSC 3150 - Equine Nutrition and Physiology Credits: 3
- ANSC 3250 - Equine Behavior and Welfare Credits: 3
- ANSC 4111 - Equine Health and Disease Credits: 3

OR

- PATB 4111 - Equine Health and Disease Credits: 3

Electives

Must choose 3 courses minimum (minimum of 8 credits) - 8 to 10 total credit hours

*Maximum of 3 credits allowed in ANSC 3560

- ANSC 3555 - Equine Evaluation and Selection Credits: 3
- ANSC 3560 - Advanced Equine Evaluation and Selection Credits: 1-2 *
- ANSC 4132 - Equine Reproduction Credits: 3
- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Apparel Design Minor

A minor in Apparel Design enables students to gain competency in areas expected of apparel designers; combining technical and creative skills with industry knowledge for the design and creation of fashionable and functional clothing.

Required Courses

- FCSC 1170 - Introduction to Apparel Construction Credits: 3

- FCSC 1175 - Design Communication Credits: 3
- FCSC 2175 - Fashion Illustration Credits: 3
- FCSC 2270 - Advanced Apparel Construction Credits: 3
- FCSC 3171 - Introduction to Textile Science Credits: 3
- FCSC 3174 - Flat Pattern Design Credits: 3
- FCSC 3175 - Apparel Design Through Draping Credits: 3

Plus one of the following

- FCSC 1180 - Applied Design Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3

Plus one of the following

- FCSC 4178 - Fiber Arts Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3

Minor Total: 27 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Applied Economics Minor

Graduate standing.

Committee selection for the student's major thesis or dissertation committee should include at least one faculty member from AGEC.

Courses Required

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

- AGEC 5310 - Theory of Producer Behavior Credits: 3

OR

- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3

- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

OR

- AGEC 5230 - Intermediate Econometric Theory Credits: 3

- 6 additional credits of approved courses.

Biology, Minor

Students may combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the minor.

Additional Information

Students who are majoring in Biology may not declare a Minor in Biology. Elective credit hours used toward the Biology Minor must be in courses not being counted towards a student's major. A grade of "C" or better is required in all courses. At least 25% of credit hours for the Biology Minor must be earned in upper division courses.

Credit in other courses with different prefixes in the biological sciences area may be applied to the minor in Biology at the discretion of a student's minor advisor.

Required Courses: 12 Hours

- LIFE 1010 - General Biology Credits: 4

Choose two from the following:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

- MICR 2021 - General Microbiology Credits: 4 - *MOLB2021 also fulfills this course requirement*

Elective Courses: 9-12 Hours

Select one different course from each of three of the following subject areas.

Molecular/Genetics/Cell Biology:

- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3

Morphology/Physiology:

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- BOT 4395 - Symbiosis of Forest Ecosystems Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4

Evolution:

- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- BOT 4280 - Paleobotany Credits: 4

Ecology:

- BOT 4280 - Paleobotany Credits: 4
- BOT 4700 - Vegetation Ecology Credits: 4
- BOT 4730 - Plant Physiological Ecology Credits: 4

- BOT 4745 - Terrestrial Ecosystem Ecology Credits: 3
- BOT 4775 - Forest Ecology Credits: 4
- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Botany, Minor

The Botany minor provides foundational coursework in botany as well as other supporting areas of physical and life sciences and mathematics.

Required Courses Credits: 11-12 Hours

- BOT 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4

- BOT 4640 - Flora of the Rocky Mountains Credits: 3

OR

- BOT 4680 - Taxonomy of Vascular Plants Credits: 4

- BOT 4700 - Vegetation Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4

Upper Division BOT Elective Requirement: 7 Hours

Choose 7 credit hours (minimum) from the following:

- BOT 3000-BOT 5999

Farm and Ranch Management Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3
- 9 additional hours in upper-level agricultural economics courses;
- 6 hours in supporting agriculture courses.

Forest Resources Minor

In Forest Resources, you will gain a working knowledge of the processes that influence forest ecology, sustainability, and harvest of the key products derived from forests.

Minimum Requirements: 20 Hours

Required Courses

- RNEW 2100 - Forest Management Credits: 3
- SOIL 4150 - Forest and Range Soils Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4
- REWM 4540 - Problems Credits: 1-4

Choose one from REWM 3100, REWM 4285, or REWM 4700:

- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4700 - Wildland Watershed Management Credits: 3

Choose one from ENR 2300, ENR 3050, ENR/GEOG 4040, or ORTM 3000:

- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3 - *GEOG 4040 also fulfills this course requirement*
- ORTM 3000 - Tourism Theory and Practice Credits: 3

Choose one from REWM 2000, REWM 4440, ZOO 2450, or GEOG 4470:

- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- GEOG 4470 - Fire Ecology Credits: 3

General Agricultural Economics Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- 15 additional hours in agricultural economics courses with 12 hours at the upper-level;
- 6 hours in supporting agriculture courses.

Horticulture Minor

Students in the horticulture minor learn basic horticultural practices, plant propagation, organic food production, and production of various horticultural commodities. Students who want to get their hands dirty are welcome.

Minimum Requirements: 20 Hours

Required: 8 Hours

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1

Choose one from PLNT 1000 or LIFE 1010:

- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General Biology Credits: 4

12 additional credit hours from the following: 12 Hours

- PLNT 3000 - Irrigated Agriculture Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3
- PLNT 3300 - Horticultural Plant Propagation Credits: 3
- PLNT 4050 - Plant Biotechnology Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4180 - Greenhouse Crop Production Credits: 4
- PLNT 4200 - Greenhouse Design and Management Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3
- PLNT 4520 - Plant Breeding Credits: 3

Human and Animal Physiology Minor

Physiology is the science of how the body functions in health and disease. A minor in physiology
provides additional background for students in a variety of majors.

Human and Animal Physiology minor - requirements

Requirements for the minor in human and animal physiology (AHPY) include a minimum of 18 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4

At Least One of These Three:

* if more than one of the three required courses is completed, additional courses can count towards Physiology Core elective courses requirement below.

- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4

Elective Courses

Physiology Core Electives. At least three courses from:

- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4260 - Mammalian Endocrinology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3038 - Exercise Psychology Credits: 3

- KIN 4042 - Advanced Biomechanics Credits: 3
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4400 - Immunology Credits: 4
- MOLB 4670 - Advanced Molecular Cell Biology Credits: 3
- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PATB 3400 - Host Defenses Against Infect. Credits: 3
- PATB 4130 - Mammalian Pathobiology Credits: 3
- PATB 4140 - Principles of Toxicology Credits: 3
- PATB 4400 - Immunology Credits: 4
- PATB 4710 - Medical Virology Credits: 3
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- SOC 3550 - Medical Sociology Credits: 3
- SOC 4160 - Sociology of Aging Credits: 3
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology Credits: 4

OR

- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3
- ZOO 4280 - Introduction to Neuroscience Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4

- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4
- ZOO 4736 - Mechanisms of Hormone Action Credits:
- ZOO 4737 - Mammalian Genomics Credits:
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- ZOO 5685 - Neurophysiology Credits: 3

Human Development and Family Sciences Minor

Provides students with a foundation in the basic principles and knowledge of human development and family sciences across the lifespan that can enrich and complement their primary area of study.

Required Courses

- FCSC 2121 - Child Development Credits: 4
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2133 - Intimate Relationships Credits: 3

Plus 12 credit hours from the following:

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3

- FCSC 4113 - Consumer Issues Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4135 - Program Evaluation Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3

Minor Total: 22 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Human Nutrition Minor

A minor in Human Nutrition and Food enhances degrees in kinesiology and health, food science, nursing, and related fields. Students learn how food choices influence health. *Does not prepare students to provide nutrition therapy or counseling*.

Required Courses

- FCSC 1141 - Principles of Nutrition Credits: 3
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4

Plus one of the following

** Course can be used to fulfill only one category.*

- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4 *
- MOLB 3610 - Principles of Biochemistry Credits: 4

Plus three of the following

** Course can be used to fulfill only one category.*

- FCSC 2141 - Nutrition Controversies Credits: 2
- FCSC 3044 - Life Cycle Nutrition II: Adults and Older Adults Credits: 2
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- FCSC 4044 - Life Cycle Nutrition III: Maternal and Infant Credits: 3
- FCSC 4145 - Advanced Nutrition and Metabolism Credits: 4 *
- FCSC 4147 - Nutrition and Weight Control Credits: 3

Minor Total: 23-25 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Insect Biology Minor

In Insect Biology, you will learn about insects and their relatives, including basic biology, behavior, ecology, and evolution.

Minimum Requirements: 13 Hours

Required: 3-4 Hours

Choose one from ENTO 1000 or ENTO 1001:

- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

9-10 additional credit hours from the following to meet minimum requirement: 9-10 Hours

- ENTO 4300 - Insect Ecology Credits: 3
- ENTO 4678 - Aquatic Entomology Credits: 3
- ENTO 4682 - Insect Anatomy and Physiology Credits: 5
- ENTO 4684 - Classification of Insects Credits: 4
- ENTO 4686 - Problems in Entomology Credits: 1-3
- ENTO 4687 - Insect Evolution Credits: 3
- ENTO 4884 - Insect Behavior Credits: 3

Interior Design Minor

A minor in Interior Design enables students with career interests in this field to gain experience in the competency areas expected of interior designers.

Required Courses

- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 3288 - Environmental Psychology and Inclusive Design Credits: 1
- FCSC 3171 - Introduction to Textile Science Credits: 3
- ARE 1060 - Architectural Design Studio I Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3

Plus one of the following

- FCSC 3180 - Contract Design I Credits: 3
- FCSC 4188 - Contract Design II Credits: 3

Plus one of the following

- FCSC 1180 - Applied Design Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ARE 3600 - Architectural Design Studio III Credits: 3

Plus one of the following

- ARE 3030 - History of Architecture Credits: 3
- ART 2020 - Art History II Credits: 3

Minor Total: 21 credit hours

All courses required for this minor must be completed with a letter grade of C or above.

Additional Requirements

The Interior Design minor is sponsored jointly by the Departments of Family and Consumer Sciences and Civil and Architectural Engineering. Students who hope to use this minor to prepare for professional certification examination following graduation should consult the sponsoring departments to receive an advisor for the minor.

International Agricultural Minor

Courses Required

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 3860 - World Food, Ag, & Development Credits: 3
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
- 6 additional hours in upper-level agricultural economics courses;
- 3 hours in foreign culture or language;
- 6 hours in supporting agriculture courses.

Molecular Biology Minor

A Molecular Biology minor includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, electives and research opportunities, preparing students for postgraduate studies.

Additional Information

Students wishing to minor in molecular biology should discuss their plans with an adviser. Formal declaration of molecular biology as a minor requires: 1) submission of a form approved by the Department of Molecular Biology and the College of Agriculture, Life Sciences and Natural Resources Dean's Office and 2) appointment of an adviser for the Department of Molecular Biology.

Although there is no specific number of credits required, to receive a minor in molecular biology, a student must complete courses listed in the following areas that total approximately 45 credits:

Minimum Requirements: 43 Hours

General Science Requirement: 20-22 Hours

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4

OR

- CHEM 2420 - Organic Chemistry I Credits: 4

- MATH 2200 - Calculus I Credits: 4

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5

OR

- MATH 1400 - College Algebra Credits: 3

AND

- MATH 1405 - Trigonometry Credits: 3

MOLB Core and Elective Requirement: 23-25 Hours

- MOLB 2021 - General Microbiology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- MOLB 3320 - Molecular Biological Methods Credits: 4

OR 3 credits of

- MOLB 4010 - Laboratory Research in Molecular Biology Credits: 1-3

- MOLB 3610 - Principles of Biochemistry Credits: 4

OR

- CHEM 4400 - Biological Chemistry Credits: 3

- **MOLB Elective Requirement:** 6 credits of 4000-level MOLB courses, excluding MOLB 4010, MOLB 4050, MOLB 4051, MOLB 4052, MOLB 4850

Natural Resource Economics Minor

Courses Required

- AGEC 1020 - Principles of Microeconomics Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3

Choose 9 Additional Hours From:

- AGEC 4450 - Negotiation Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4520 - Public Economics Credits: 3 (note: College of Business prerequisites)
- ENR 4500 - Risk Analysis Credits: 4

Neuroscience Minor

Neuroscience explores the nervous system structure and function. Electrical signaling of neurons provides the basis of our thoughts, perceptions, learning, movement, emotion, sleep-wakefulness, and behavior.

Additional Information

Minimum credit hours: 17. Courses counted towards one minor my NOT count towards a different minor. A grade of "C" or better is required in all coursework in the Neurosciences minor.

Required Courses

- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4280 - Introduction to Neuroscience Credits: 3

Elective Courses:

- ZOO 4125 - Integrative Physiology Credits: 5
- ZOO 4735 - Advanced Topics in Physiology Credits: 1-4

  (ZOO 4735 sections must have a neurosciences aspect, consult your advisor for help selecting appropriate sections).
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4295 - Neurodevelopment Credits: 3
- ZOO 5685 - Neurophysiology Credits: 3
- ZOO 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- PSYC 4040 - Cognitive Neuroscience Credits: 4

Plant Protection Minor

A combination of weed science, plant pathology, and entomology, the Plant Protection minor provides training for many careers in invasive species management, plant diagnostics, horticulture, and agronomy, among others.

Minimum Requirements: 19 Hours

Required: 19 Hours

- PLNT 1000 - Agroecology Credits: 4
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- PLNT 3220 - Plant Pathology Credits: 3

Choose one from ENTO 1000 or ENTO 1001 (ENTO 1001 preferred if available):

- ENTO 1000 - Insect Biology Credits: 3
- ENTO 1001 - Insect Biology Credits: 4

Choose one from PLNT 4070 or PLNT 4400:

- PLNT 4070 - Weed Science and Technology Credits: 4
- PLNT 4400 - Invasive Plant Ecology Credits: 3

Choose one from the following:

- PLNT 4000 - Plant Disease Control Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- PLNT 4470 - Seed Science and Technology Credits: 3

Rangeland Ecology and Watershed Management Minor

Rangeland Ecology and Watershed Management introduces the knowledge, skills, and tools to understand and manage range- and wild-lands in a diversity of landscapes and ecosystems.

Minimum Requirements: 22 Hours

Required Courses

- LIFE 1010 - General Biology Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4530 - Seminar Credits: 1

Plus 3 hours selected from other REWM upper-division (3000- or 4000-level) courses

Reclamation and Restoration Ecology Minor

This program covers the use of basic and applied ecological concepts in the rehabilitation, reclamation and restoration of disturbed ecosystems.

Minimum Requirements: 23 Hours

Required Courses: 15 Hours

- LIFE 3400 - General Ecology Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4 - *Only 2 credit hours of RNEW 4990, Topics in: Ecosystem Restoration, satisfies this requirement.*

Above-Ground Processes: 2-4 Hours

Choose one from BOT 4700, CE 4800, ENTO 4678, REWM 4285, REWM 4540, REWM 4700, REWM 4710, REWM 4750, or REWM 4850:

- BOT 4700 - Vegetation Ecology Credits: 4
- CE 4800 - Hydrology Credits: 3
- ENTO 4678 - Aquatic Entomology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4

- REWM 4540 - Problems Credits: 1-4
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3

Below-Ground Processes: 3-4 Hours

Choose one from SOIL 4100, SOIL 4120, SOIL 4140, SOIL 4150, or SOIL 4160:

- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3

Planning and Policy: 3 Hours

Choose one from AGEC 4710, ENR 3000, GEOG 4040, REWM 4051, REWM 4052, or REWM 4900:

- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- REWM 4051 - Environmental Politics Credits: 3
- REWM 4052 - Federal Land Politics Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3

Soil Science Minor

This program is designed to enhance soil expertise for students majoring in degree

programs related to agriculture, natural resources, and/or environmental sciences.

Minimum Requirements: 15 Hours

Required Courses

- SOIL 2010 - Introduction to Soil Science Credits: 4

  Plus 11 credits of upper-division soil science courses for a total of 15 credits

Additional Information

Undergraduate students minoring in Soil Science will enhance their job prospects with federal land management or conservation agencies (e.g., Forest Service, Bureau of Land Management, Natural Resources Conservation Society), state and federal regulatory agencies (e.g., Wyoming Department of Environmental Quality), mining and oil companies, environmental consulting companies, or scientific research organizations.

Wildlife Fisheries Biology Management Minor

Course include theory and techniques involved in the management, conservation, and captive propagation of wildlife and fish populations. Includes both classroom and field experiences in a Rocky Mountain setting.

Wildlife Fisheries Biology Management minor - requirements

Requirements for the minor in wildlife fisheries biology management (WFBM) include a minimum of 18 credit hours.

Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

9 or 11 credit hours required from the following:

- LIFE 3400 - General Ecology Credits: 3
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

One (1) Course From:

- ZOO 4300 - Wildlife Ecology and Management Credits: 5

OR

- ZOO 4310 - Fisheries Management Credits: 3

Elective Courses

Select three (3) of the following courses, one of which must have a laboratory component:

- LIFE 3050 - Genetics Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4400 - Population Ecology Credits: 3
- ZOO 4415 - Behavioral Ecology Credits: 3
- ZOO 4420 - Conservation Biology Credits: 3
- ZOO 4440 - Limnology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- ZOO 4740 - Fish Culture and Nutrition Credits: 3

Zoology Minor

Explore form, function, behavior, ecology, evolution and conservation of animals and hone analytical, writing, and research skills.

Zoology Minor - requirements

Requirements for the minor in zoology (ZOOL) include a minimum of 17 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Course

- LIFE 3050 - Genetics Credits: 4

Elective Courses

Select four (4) of the following courses, one of which must have a laboratory component:

- LIFE 3400 - General Ecology Credits: 3
- LIFE 3500 - Evolutionary Biology Credits: 3
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4190 - Comparative Environmental Physiology Credits: 3
- ZOO 4235 - Marine Biology Credits: 3
- ZOO 4330 - Ichthyology Credits: 3
- ZOO 4340 - Developmental Biology and Embryology Credits: 4
- ZOO 4350 - Ornithology Credits: 3
- ZOO 4370 - Mammalogy Credits: 3
- ZOO 4380 - Herpetology Credits: 3
- ZOO 4540 - Invertebrate Zoology Credits: 4
- BOT 4235 - Marine Biology Credits: 3

Graduate

Agricultural Economics, M.S.

The M.S. in Agricultural and Applied Economics prepares graduates for careers in a diverse range of fields, including in business, government, research and education, and is also excellent preparation for continuing on to a PhD or law degree.

Students will take classes in the economic theory of consumer and producer decision-making, marketing, natural resource economics, linear programming, and econometrics in addition to elective field courses. Students also work closely with faculty to complete an in-depth research project and write an MS thesis on a topic that meets their interests and career goals. Research and teaching assistantships, which cover the costs of tuition and fees, health insurance, and provide a monthly stipend, are also available to support completion of the MS degree.

Degree Requirements

The following courses constitute the M.S. in Agricultural Economics core requirements and are required of all Plan A candidates (22 hours).

Economic Theory

- AGEC 5310 - Theory of Producer Behavior Credits: 3
- AGEC 5630 - Advanced Natural Resource Economics Credits: 3
- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3

Quantitative Methods

- AGEC 5230 - Intermediate Econometric Theory Credits: 3
- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

Research

- AGEC 5650 - Communicating Research Credits: 3
- AGEC 5880 - Advanced Seminar Credits: 1-2

Plan A (Thesis):

Minimum of 30 credit hours including AGEC M.S. core requirements, thesis hours and electives.

No more than three hours of AGEC coursework numbered below 5000-level count toward the 30 hour requirement.

Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements.

The student's graduate committee, nominated by the major professor, the student, and the department head determine the final program of study and thesis research topic.

Presentation of research results at a formal public seminar.

Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Plan B (Non-thesis):

Minimum of 32 hours of coursework;

Non-thesis business analysis paper accepted by the student's graduate committee.

Minimum of 13 credit hours of agricultural economics coursework numbered at the 5000-level are required, including:

- AGEC 5310 - Theory of Producer Behavior Credits: 3
- AGEC 5740 - Consumer Behavior and Prices Analysis Credits: 3
- AGEC 5880 - Advanced Seminar Credits: 1-2

- AGEC 5630 - Advanced Natural Resource Economics Credits: 3

OR

- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3

- AGEC 5320 - Quantitative Methods in Agricultural Economics Credits: 3

OR

- AGEC 5230 - Intermediate Econometric Theory Credits: 3

In Addition:

Students are required to complete 3 credit hours from each of the following three areas:

Management:

- AGEC 4060 - Agribusiness Management Credits: 3

- AGEC 4640 - Advanced Farm/Ranch Management Credits: 3

Marketing:

- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4830 - Agricultural Commodities and Futures Markets Credits: 3
- AGEC 4840 - Agricultural Market Analysis Credits: 3

- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3

OR

- AGEC 5710 - Advanced Agricultural Market Theory Credits: 3

OR

- MKT 4240 - Consumer Behavior Credits: 3

- MKT 4430 - Marketing Management Credits: 3

- MKT 4520 - Marketing Research and Analysis Credits: 3

OR

- MKT 4540 - International Marketing Credits: 3

Finance:

- AGEC 4500 - Agricultural Finance Credits: 3

OR

- FIN 4510 - Bank Management Credits: 3

- FIN 4810 - Real Estate Investment Credits: 3

OR

- ECON 4740 - International Economics and Policy Credits: 3

Remaining Credit Hours

Remaining credit hours will be filled with electives.

The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic.

Presentation of the business analysis paper at a formal public seminar.

An internship experience is strongly encouraged as part of the agricultural business option (AGEC 5990).

Agricultural Economics/Environment and Natural Resources, M.S.

Plan A (Thesis)

Students must complete the 20 credit hour agricultural and applied economics M.S. core requirements plus 4 thesis hours and 15 credit hours in environment and natural resources, as approved by the student's committee and the ENR academic adviser.

Achieve a cumulative 3.000 GPA in the AGEC M.S. core requirements.

The student's graduate committee, nominated by the major professor, the student and the department head determine the final program of study and business analysis topic, which must be in the area of environment and natural resources.

Presentation of research results at a formal public seminar.

Completion of an oral examination covering the student's thesis research administered by the student's graduate committee.

Animal and Veterinary Science, M.S.

Both Plan A (Thesis) and Plan B (Non-thesis) options are available.

Plan A (Thesis)

The student, major professor, and graduate committee determine the program of study and research project, which meets the needs of the individual student. The candidate's graduate committee should be established and functioning by the time the student has completed 12 semester hours of formal coursework. The master of science program should be approved and filed by the end of the student's second semester of graduate study in animal science. This committee shall also determine if the student is making satisfactory progress to be advanced to a candidate for a master's degree or continued in a doctoral program by the end of the student's third semester following matriculation.

The student can specialize in breeding, food science and human nutrition, nutrition, physiology, meat science, reproduction or wool for coursework and thesis/dissertation project. In addition, supporting coursework is available in agricultural economics, biochemistry, microbiology, range management, genetics, statistics, and other areas of interest to the individual. In certain cases it is possible to develop a joint research project between animal science and another department.

Students may use the research facilities and herds of beef cattle, sheep, and swine at the university livestock center near the university or at one of the university research and extension centers in the state. Research laboratories are located on campus and include a modern meat processing facility.

The Thesis program is a 30 hour program, 26 hours of coursework and 4 hours of thesis research.

Plan B (Non-thesis)

The Non-thesis program requires a coursework-intensive, non-thesis master of science program for those students whose career paths may not require a thesis research program.

The program requires 32 hours of coursework in addition to an acceptable non-thesis research paper as defined by the student's graduate committee.

Options

Program Specific Degree Requirements

A minimum of 30 credit hours including 4 thesis hours must be earned in 4000-5999 level courses.

The program of study is arranged with the student's graduate committee.

Animal and Veterinary Science, Ph.D.

A 72 hour program.

Students must meet the university minimum requirements.

Botany, M.S.

Requirements for this degree are 26 semester hours of courses approved by the student's committee plus 4 hours of BOT5960 - Thesis Research.

Botany, Ph.D.

In addition to the minimum requirements set forth in this Catalog, the Department of Botany may require that a student demonstrate skills in two peripheral areas. This decision is made for individual cases by the major professor and graduate committee. These could include foreign languages, statistics, or computer science. In some cases, additional skills may be required.

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

Overview

The School of Pharmacy and the Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources offer a dual degree program in which a student who meets the admission qualifications of both programs may simultaneously pursue a combined

program of study leading to both the Bachelor of Science degree in Physiology (Physiology BS [PHSO]) and the Doctor of Pharmacy (PharmD) degree. The School of Pharmacy accepts up to ten (10) credit hours of courses in the Physiology BS program toward the credits of the PharmD degree. The College Agriculture, Life Sciences, and Natural Resources Department of Zoology/Physiology accepts up to eighteen (18) credit hours of required courses in the PharmD program toward the credits of the Physiology BS degree. The specific required courses accepted by each will be chosen from the applicable University Catalog. In total, up to twenty (28) credits can be shared across the degrees.

Students will typically spend years one to three in the Department of Zoology and Physiology and years four through seven (4-7) in the School of Pharmacy. Students desiring to complete the dual program in a different sequence should consult with, and seek approval from each program, keeping in mind the program requirements.

Admission to the Dual Program

Student who wish to declare the dual Physiology BS-PharmD program start their freshman year as Physiology or Pre-pharmacy majors and declare as sophomores provided they are on-track to meet the PharmD admissions standards.

Early Assurance: Students in the Dual Degree Program with sophomore standing and a college GPA of 3.3 will be provisionally accepted into the PharmD program, pending a successful interview.

Basic Provisions of the Dual Degree Offering

1. The School of Pharmacy will accept up to ten (10) credit hours of coursework from the Physiology BS program, provided the student earns a grade of "C" or better. The exact courses designated for credit toward the PharmD will be jointly determined from the applicable catalog by an approving authority in both programs.

2. The Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources will accept up to eighteen (18) credit hours coursework from the PharmD, provided the student earns a grade of "C" or better. The exact PharmD courses designated for credit toward the Physiology BS degree will be jointly determined from the applicable catalog by an approving authority in both programs.

3. Separate grade point averages will be calculated for each program.

4. Students in the dual program must meet all other requirements for the PharmD and Physiology BS programs such as co-curricular programming, experiential learning, and other requirements.

5. The PharmD degree and the Physiology BS degree will be awarded when all the degree program requirements for each respective program have been met.

6. Both the School of Pharmacy and the Physiology BS program will include information on their websites about the dual degree and will strive to promote the program as part of their recruitment efforts.

7. The Physiology BS degree will be the primary degree for years 1-3, then the PharmD degree will be the primary degree once the students matriculate into pharmacy school.

Dual Physiology BS/PharmD Degree

I. ADMISSION
a. Interested students should declare the Dual Physiology BS/PharmD Degree track during years 1-3 of the Physiology

II. GRADUATION
a. Students in the dual degree program will complete all graduation requirements for both degree programs.

III. DEGREE CONFERRAL
a. Two separate degrees will be posted and may include a note at the top of either transcript indicating the number of Physiology hours or PharmD hours accepted as electives toward either degree.
b. This will be the only indication on the student's transcript that they were pursuing a dual Physiology BS/PharmD degree. This note may be necessary to account for the shared credits across degrees and comply with the minimum credits required by the University.

Changes to Curriculum

This agreement will apply to the degree requirements for the full-time, on-campus Physiology BS degree and Doctor of Pharmacy degree outlined in the applicable University of Wyoming Catalog. Issues related to individual students or changes in either degree program requirements will be jointly resolved by the School of Pharmacy and the Department of Zoology and Physiology.

Curriculum Information

Please visit the Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree

Program Curriculum page for information on degree requirements.

Entomology, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research in Entomology.

Plan A (Thesis)

The master of science degree normally is offered under Plan A which requires at least the university minimum degree requirements and an oral examination.

Plan B (Non-thesis)

Requires 30 hours of graduate credit to include 9 hours of required courses, 11 hours of required electives, and 10 hours of other electives.

A Plan B master of science will be a terminal degree program in the Department of Ecosystem Science and Management. Students completing this option will not qualify for a subsequent Ph.D. program in Department of Ecosystem Science and Management at the University of Wyoming.

Additional Requirements

This program requires 30 credit hours (at least 12 from Entomology) approved by the student's graduate advisory committee and an approved research proposal.

Entomology, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in Entomology.

Additional Requirements

This program requires 72 credit hours (at least 12 from Entomology) that may include credits earned during a master's degree that are approved by the student's graduate advisory committee. The program also requires an approved research proposal.

Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework complete) and a final oral examination.

Family and Consumer Sciences - Master of Science

The master's program in family and consumer sciences offers three specialized and very different areas of emphasis for a variety of pathways and careers.

General Requirements

All emphasis areas listed below require a minimum of 30 credit hours of coursework at the 4000/5000 level. Only nine credit hours of 4000-level courses are allowed in this master's program. The student may be required to complete more than the minimum credit hours to satisfy prerequisites or because the student's committee determines additional coursework is required for the student to reach their professional objective.

The student is responsible for meeting all deadlines, submitting all required forms, and for fulfilling all requirements for the degree.

Design, Merchandising and Textiles

This program offers the study of textiles, merchandising of textile and apparel

products, various aspects of apparel design and product development including creative and functional design options, and various aspects of interior design.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (as approved by the student's graduate committee):

- FCSC 5181 - Global Trade and Sourcing for Textile Products Credits: 3
- FCSC 5182 - Environmental Sustainability in Design, Merchandising and Textiles Credits: 3
- AGEC 5650 - Communicating Research Credits: 3

AND:

8 credit hours from the following courses:

- FCSC 5171 - Advanced Textiles and Product Evaluation Credits: 3
- FCSC 5172 - Advanced Textiles and Product Evaluation Lab Credits: 1
- FCSC 5173 - Textile Science Seminar Credits: 3
- FCSC 5176 - Historic Clothing Credits: 3
- FCSC 5178 - Fiber Arts Credits: 3
- FCSC 5179 - Historic Textiles Credits: 3
- FCSC 5188 - Contract Design II Credits: 3
- FCSC 5288 - Professional Practice and Advanced Interiors Studio Credits: 4
- FCSC 4160 - Merchandising Strategies and Technology Credits: 3
- FCSC 4185 - Product Development and Technology Credits: 3
- FCSC 4190 - Apparel Collection Development Credits: 3

AND:

Student must complete the following (as approved by the student's graduate committee):

6 credit hours of supporting courses from arts, humanities, natural or social sciences

3 credit hours of supporting research courses

4 credit hours of FCSC 5960 - Thesis Research

Human Development and Family Sciences

This program is designed for professionals who are currently working in human services fields and would like to further their education. This is an entirely online degree program that allows students to progress at their own pace.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (as approved by the student's graduate committee):

- FCSC 5112 - Family Decision and Resource Management Credits: 3
- FCSC 5117 - Understanding Community Leadership Credits: 3
- FCSC 5118 - Family Policy Credits: 3
- FCSC 5122 - Developmental Contexts Across the Lifespan Credits: 3
- FCSC 5135 - Program Evaluation Credits: 3
- FCSC 5138 - Family Stress/Coping Credits: 3
- EDRE 5530 - Introduction To Research Credits: 3 **OR** EDRE 5550 - Action Research Credits: 3

Student must complete the following (as approved by the student's graduate committee):

8 credit hours of supporting courses

4 credit hours of FCSC 5960 - Thesis Research

Human Nutrition and Food

This program increases the understanding of food and nutritional science and how to

apply that knowledge to disease prevention and enhancement of human potential.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (approved by graduate committee):

- 18 credit hours of courses from food and nutritional sciences, biological, natural and social sciences 6 credit hours of supporting research courses
- 2 credit hours of graduate research seminars
- 4 credit hours of FCSC 5960 - Thesis Research

Application Requirements

Admission to our graduate program and selection for department-funded assistantships is highly competitive. Faculty in each program area will review the applications for their program area and priority consideration will be given to applicants who meet or exceed admission requirements and possess research interests that parallel those of the faculty. Applicants will also be evaluated based on their fit with the identified faculty member and whether the identified faculty member is currently accepting graduate students. Faculty members typically select promising students to interview before final decisions are made. We do not offer conditional admission.

Application requirements can be found here: https://www.uwyo.edu/fcs/graduate-programs/index.html

Food Science and Human Nutrition

Interdisciplinary Master of Science

An interdisciplinary program where students gain expertise in theory as well as combined research in the areas of human nutrition and metabolism, food product development, community nutrition, food microbiology, meat science and food chemistry.

General Information

Earn your master's degree in food science and human nutrition through the Department of Animal Science or Family and Consumer Sciences!

In this highly competitive graduate degree program, students gain direct experience with data collection, analysis, writing and publication through laboratory and classroom learning experiences. Program faculty are actively conducting research in the areas of eating behaviors, indigenous/traditional diets, micronutrient needs and deficiencies, food product development, sensory characteristics of food products, health and physical performance of active individuals, nutrition and disease, brain-reward pathway, microbial diagnostics, rumen microbiome, nitrogen/protein metabolism, lipid analysis and alternative feed/forages.

General Requirements

A minimum of 30 credit hours of coursework at the 4000/5000 level is required; only nine credit hours of 4000-level courses are allowed in this master's program. A student may be required to complete more than the minimum credit hours to satisfy prerequisites or because the student's committee determines additional coursework is required for the student to reach their professional objective.

Student may choose Plan A - Thesis or Plan B - Non-Thesis Project.

An oral defense of thesis or project is required.

Student must complete the following (approved by graduate committee):

- 20 credit hours of courses from food and nutritional sciences, biological, natural and social sciences
- 6 credit hours of supporting research courses
- 4 credit hours of FCSC 5960 - Thesis Research

The student is responsible for meeting all deadlines, submitting all required forms, and for fulfilling all requirements for the degree.

Recommended Prerequisites

The following are recommended for students applying to the program:

- One semester of organic chemistry
- Human or animal nutrition, anatomy and physiology
- Introductory statistics

Application Requirements

Admission to our graduate program and selection for department-funded assistantships is highly competitive. Faculty in each program area will review the applications for their program area and priority consideration will be given to applicants who meet or exceed admission requirements and possess research interests that parallel those of the faculty. Applicants will also be evaluated based on their fit with the identified faculty member and whether the identified faculty member is currently accepting graduate students. Faculty members typically select promising students to interview before final decisions are made. We do not offer conditional admission.

Application requirements can be found here: https://www.uwyo.edu/fcs/graduate-programs/index.html

Insect Biology/Entomology Graduate Study Minor

This minor is designed to complement a related graduate degree. Knowledge of the biology, ecology and classification of insects is crucial to understanding the effects they have on agriculture, human health, and ecosystems.

Molecular Biology, M.A.

The Molecular Biology M.A. program includes advanced courses in molecular sciences with a focus on a research project, preparing students for a Ph.D. program, biotechnology research or other professional postgraduate program.

Additional Information

An applicant for the M.A. degree in Molecular Biology is generally expected to have an equivalent of a B.S. degree in a field related to Molecular Biology. Prior to admission to the program, an applicant needs to contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can apply to the Molecular Biology graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

The pursuit of an M.A. degree in Molecular Biology is also suitable for students interested in obtaining a master's degree that does not necessarily include laboratory

work. Students who intend to pursue education in medical, dental, veterinary or law schools may choose to pursue an M.A. in Molecular Biology before continuing their education. An appropriate research project is selected in consultation with the M.A. degree candidate and their graduate adviser. Student performance is monitored by a thesis committee that will evaluate a student's written thesis, public seminar, and oral thesis defense. A student pursuing an M.A. degree should not have expectations of financial support. Students pursing the M.A. degree in Molecular Biology usually complete their program in two academic semesters plus two summer semesters.

Requirements for M.A. degree in Molecular Biology

An M.A. degree student, in consultation with their graduate committee, must design a Program of Study that includes a minimum of 30 hours of graduate credit. Specific requirements for the M.A. Program in Molecular Biology are listed below.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
- This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate, or transfer credits for an equivalent biochemistry course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of a 5000-level MOLB course from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680.
- 4 credits of the seminar presentation course MOLB5050 (2 credits of MOLB5050 must be taken the first semester a student enrolls in the graduate program).
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- 4 credits of Thesis Research MOLB5960.

- Other credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Molecular Biology, M.S.

The Molecular Biology M.S. program provides training with advanced courses and laboratory research in molecular sciences, with the goal of providing a foundation for a Ph.D. program, employment or other postgrad program.

Additional Information

The M.S. program in Molecular Biology is a research-intensive degree. An applicant is generally expected to have an equivalent of a B.S. degree in a field related to Molecular Biology. Prior to admission to the program, an applicant must contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can start an application to the Molecular Biology graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

An M.S. candidate will conduct a research project and present their results at departmental seminars and at scientific meetings. Student performance is monitored by a thesis committee that evaluates a student's research proposal, seminar presentations, written thesis, final public seminar, and final oral defense of the thesis. In consultation with the faculty research adviser, a student may elect to serve as a teaching assistant. Graduate assistantships for M.S. degree students are at the discretion of their graduate adviser. Students pursuing the M.S. degree in Molecular Biology usually complete their program in two to three years.

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from

undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

Requirements for M.S. degree in Molecular Biology

An M.S. degree student, in consultation with their graduate committee, must design a Program of Study that includes a minimum of 30 hours of graduate credit, including 26 credits of formal coursework and 4 credits of thesis research MOLB5960. Specific requirements for the M.S. degree in Molecular Biology are listed below.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
- This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate, or transfer credits for an equivalent biochemistry course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of a 5000-level MOLB course from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460, MOLB5610, MOLB5670, MOLB5680.
- 4 credits of MOLB5050 Advanced Student Seminar (2 credits of MOLB5050 must be taken the first semester a student enrolls in the graduate program).
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- 4 credits of Thesis Research MOLB5960.
- Other credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Molecular Biology, Ph.D.

The Molecular Biology Ph.D. program provides training with advanced courses and conducting an extensive laboratory research

project in molecular and cellular biology or microbiological research areas.

Additional Information

The Ph.D. in Molecular Biology is a research-intensive degree. Prior to admission to the program, an applicant must contact a Molecular Biology department professor directly to determine if they may be interested in serving as the student's potential adviser. Once a future graduate adviser agrees to accept a student into their lab, an applicant can start an application to the Molecular Biology Graduate program. Admissions to the program are allowed in the Fall, Spring and Summer semesters.

An application to the Ph.D. program should include a curriculum vitae (CV), a 2-page statement of research interests and career plans, contact information for three references, transcripts from previous institutions, and GRE scores. Those students with an M.S. degree may be excluded from the GRE score requirement. Following admission, a student will conduct a guided research project in the laboratory into which they have been accepted. The faculty research adviser is responsible for financial support of the student. A research project is expected to result in publications in peer-reviewed journals as well as presentations at departmental seminars and scientific meetings.

Throughout the degree program, a graduate student is guided and evaluated by their research adviser and graduate committee. A student must develop a Program of Study approved by the student's graduate committee. Student performance is monitored by a dissertation committee that evaluates a student's seminar presentations, research proposal, preliminary exam, written dissertation, final public seminar, and final oral defense of the dissertation. In consultation with the faculty research adviser, a student may elect to serve as a teaching assistant. Students pursing the Ph.D. degree in Molecular Biology usually

complete their program in approximately five years.

Requirements for Ph.D. degree in Molecular Biology

A Program of Study for the Ph.D. in Molecular Biology must include a minimum of 72 semester hours of credit at the 4000 level or above from UW or equivalent levels from another approved university. This 72-hour requirement may include graduate credits earned while working toward the master's degree in the same area, but at least 42 hours (of the 72) must be earned in formal coursework, including the specific requirements for the program detailed below. Additional credits toward the 72-hour requirement may include additional formal course credits, Dissertation Research credits (MOLB5980), or MOLB5960 credits or Internship credits (MOLB5990).

Additional information on graduate student regulations and policies, including transfer credit and credit reserved from undergraduate courses, is located here: https://www.uwyo.edu/registrar/graduate-students/resources.html.

Specific requirements for the Ph.D. degree in Molecular Biology are listed below. The Program of Study is determined in consultation with the student's graduate committee and must be on file in the Office of the Registrar before the preliminary examination can be scheduled.

- 3 credits of Advanced Biochemistry MOLB5600 with a minimum grade of B.
- This requirement may be fulfilled if a student has already received a minimum grade of B in Advanced Biochemistry as an undergraduate or as part of a master's program, or transfer credits for an equivalent course taken at another university (equivalency is determined by the student's graduate committee).
- 6 credits minimum of 5000-level MOLB courses from the following list: MOLB5400, MOLB5440, MOLB5450, MOLB5460,

MOLB5610, MOLB5670, MOLB5680, MOLB5700.

- 4 credits of MOLB5050 Advanced Student Seminar; 2 credits of MOLB 5050 must be taken the first semester a student enrolls in the graduate program.
- Students are required to enroll in the departmental seminar course each semester: MOLB5051 during the academic year; MOLB5052 in the summer semester.
- MOLB5980 Dissertation Research (number of credits to be determined in consultation with the student's graduate committee).
- Other course credits as determined by the student in consultation with their graduate committee, such as MOLB5055.

Plant Sciences, M.S.

The Plant Sciences M.S. emphasizes management of agronomic, horticultural, and forage crops; plant breeding; and invasive species management. Students train for careers in academia and the public and private sectors.

Plan A (Thesis)

Requirements for the master of science degree include 26 hours of coursework beyond the bachelor's degree numbered 4000 or above, 4 hours of thesis research, a research proposal, original research, and oral defense of the thesis.

The M.S. degree is typically completed in two years. The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

Plant Sciences, Ph.D.

A Ph.D. in Plant Sciences is a terminal degree focusing on research in plant production, protection, and management. The scientific training prepares students for careers in academia and the public and private sectors.

Program Information

The requirements for the doctor of philosophy degree include 60 hours of coursework beyond the bachelor's degree numbered 4000 or above, 12 hours of dissertation research, a research proposal, original research, written and oral preliminary exams to be taken when most or all coursework is completed, and an oral defense of the dissertation.

Dissertations may be in a modified journal article format but must meet university formatting requirements.

The student's coursework is selected to fit the student's individual needs by mutual consultation among the student, his/her major professor, and graduate committee.

The student is expected to participate in the usual activities of scientific research such as attending and presenting at research seminars and professional meetings and publishing his/her research.

Rangeland Ecology and Watershed Management, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to communicate with the public and potential clients and to conduct rigorous scientific research in rangeland ecology and watershed management.

Plan A (Thesis)

The master of science degree normally is offered under Plan A which requires at least the university minimum degree requirements and an oral examination.

An oral defense of the thesis is required.

Plan B (Non-thesis)

Plan B is available under special circumstances and requires 30 hours of graduate coursework.

Plan B candidates must also prepare one professional paper (i.e., content and form compatible with publication in a scientific journal) or, if the adviser requests, two professional papers in selected topic areas.

An oral defense of the paper(s) is required.

Additional Requirements

This program requires 30 credit hours (at least 12 from Rangeland Ecology and Watershed Management) approved by the student's graduate advisory committee and an approved research plan.

Rangeland Ecology and Watershed Management, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in rangeland ecology and watershed management.

Requirements

This program requires 72 credit hours (at least 12 from Rangeland Ecology and Watershed Management) that may include credits earned during a master's degree that are approved by the student's graduate advisory committee. The program also requires an approved research plan. Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework is complete) and a final oral examination.

Soil Science, M.S.

The M.S. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research in soil science.

Plan A (Thesis)

Plan A requires the university minimum degree requirements and an oral final examination.

Plan B (Non-thesis)

Plan B is available and requires 30 hours of graduate coursework.

An oral defense of the paper(s) is required.

Additional Requirements

This program requires 30 credit hours (at least 12 from Soil Science) approved by the student's graduate advisory committee and an approved research plan.

Soil Science, Ph.D.

The Ph.D. program is geared toward teaching graduate students the tools necessary to conduct rigorous scientific research on major questions in soil science.

Additional Requirements

This program requires 72 credit hours (at least 12 from Soil Science) that include credits earned during a master's degree that are approved by the student's graduate advisory committee and an approved research plan.

Candidates must complete the minimum requirements for the doctor of philosophy degree, plus a preliminary written examination covering knowledge related to the discipline (taken after most coursework is complete) and a final oral examination.

Zoology and Physiology, M.S.

Advanced-degree students in Zoo/Phys experience collaborative, interdisciplinary approaches to basic and applied questions. Work spans molecules to ecosystems, with training in fields including physiology, ecology, evolution, fisheries, and wildlife.

Plan A (Thesis)

Includes 26 hours of coursework and 4 hours of thesis research.

Applicants should have at least 20 semester hours of undergraduate work in zoology, physiology, or other areas of the biosciences and have completed introductory courses in mathematics, chemistry, and in at least one other natural or physical science. Early in the second semester the student must file a program of study with the university and have a graduate committee appointed. Plan A candidates shall orally defend the thesis before the graduate committee.

All M.S. candidates will be required to complete credit in two graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

After two semesters in the department, a Plan A master's candidate may request permission from the department's graduate advisory board to proceed directly to the Ph.D. degree; however, such a bypass is granted only by the department head after considering recommendations from the graduate advisory board.

Zoology and physiology may be used as a field by a candidate working for the interdisciplinary master of science in natural science in the College of Arts and Sciences and the College of Education.

Plan B (Non-Thesis)

Includes 30 hours of coursework.

The program for the Plan B is established by the student and a faculty adviser and must be approved by the department head during the student's second semester or summer session.

The graduate committee will require the candidate to take a written examination. An oral examination may also be required. The final examination is comprehensive, covering all areas of zoology, but emphasizing one major area.

Zoology and Physiology, Ph.D.

Advanced-degree students in Zoo/Phys experience collaborative, interdisciplinary approaches to basic and applied questions. Work spans molecules to ecosystems, with training in fields including physiology, ecology, evolution, fisheries, and wildlife.

Additional Information

This is a 72 hour program.

A Ph.D. applicant must have 20 hours of undergraduate work in zoology, physiology, or other areas of biology and also have completed substantial undergraduate work in other sciences. Under exceptional circumstances, a student with an undergraduate major in a scientific discipline other than biology may be admitted. After the Ph.D. student has completed two semesters of graduate work, s/he must be approved for continued work toward the doctorate by the graduate advisory board. This board can reconsider a candidate thereafter if it so desires.

A graduate committee shall be appointed for the individual student no later than the third semester. After consultation with the student, this committee will prescribe special requirements (courses, minors, research tools, etc.) that must be fulfilled. At this time, the graduate committee shall consult with the candidate on the proposed research and shall identify the subject matter areas to be included in the preliminary

examination. The preliminary examination will consist of a written research proposal, its oral defense, and a written and oral preliminary examination. When training outside zoology and physiology is specified by the committee, certification of satisfactory completion of the requirement will be made by the appropriate department.

In addition to the general university requirements for the Ph.D. degree, the department requires the following:

The coursework program should include work in a discipline outside the department, generally in the sense of a minor, to be identified in consultation with the graduate committee.

The preliminary examination consisting of written and oral portions should be taken no later than midterm of the fourth semester in residence. The graduate committee will certify satisfactory performance for the preliminary examination.

The dissertation must be received by each member of the graduate committee three weeks before the final dissertation seminar. As oral defense of the dissertation, the candidate will deliver a formal 50 minute seminar on original research from the dissertation. The seminar will be followed by an examination by the graduate committee.

Some time during their degree program, all Ph.D. candidates will be required to complete credit in three graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

All candidates for the Ph.D. degree shall be required to teach for one semester during their program.

The dissertation may be written in a format suitable for publication in a journal and the usual extensive literature review, description of study sites, technical details, raw data, supporting figures, charts, and photographs should be included in a well-organized appendix. (See also format requirements by the university.)

Certificate

Reclamation/Restoration Ecology Graduate Certificate

The Reclamation/Restoration Ecology (RRE) graduate certificate prepares the student to use basic and applied ecological concepts to reclaim, rehabilitate, and restore disturbed ecosystems.

Minimum Requirements: 15 Hours

Reclamation and Restoration Ecology: 8 Hours

- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- RNEW 5990 - Topics In: Credits: 1-4 - *Only 2 credit hours of RNEW 5990, Topics in: Ecosystem Restoration, satisfies this requirement.*

Reclamation Problems: 4 Hours

- SOIL 5565 - Research in Soil Science Credits: 1-4

AND/OR

- REWM 5640 - Investigation Credits: 1-4

Electives: 3 Hours

Choose one from the following options:

- BOT 5700 - Vegetation Ecology Credits: 4
- BOT 5730 - Plant Physiological Ecology Credits: 4

- BOT 5780 - Biogeochemistry Credits: 3
- PLNT 5070 - Weed Science and Technology Credits: 4
- PLNT 5470 - Seed Science and Technology Credits: 3
- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5570 - Advanced Geohydrology Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- REWM 5750 - Wildlife Habitat Restoration Ecology Credits: 3
- RNEW 5540 - Shrubland Ecology Credits: 3
- SOIL 5110 - Modeling Water and Chemical Transport in Vadose Zone and Groundwater Systems Credits: 4
- SOIL 5130 - Chemistry of the Soil Environment Credits: 3
- SOIL 5140 - Soil Microbiology Credits: 4
- SOIL 5150 - Forest and Range Soils Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

Additional Information

The graduate certificate will be granted to students who have completed a B.S. in an appropriate science-oriented discipline or are currently enrolled in an M.S. or Ph.D. program.

The graduate certificate will also be available to professionals working in reclamation/restoration-oriented fields seeking to upgrade their training in reclamation and restoration ecology. Those interested in the graduate certificate will be required to complete the course work listed above, as well as write a synopsis paper with a formal presentation advertised as an open forum seminar.

QuickStart Program

Plant Sciences, B.S./M.S. QuickStart

This program enables accepted students to work simultaneously toward both a B.S. in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and an M.S. in Plant Sciences.

Program Information

The combined Plant Sciences B.S./M.S. QuickStart program enables highly-qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter toward both the B.S. and M.S. degrees. Accepted students would earn a B.S. degree in Agroecology, Plant Production and Protection, or Rangeland Ecology and Watershed Management, and the M.S. degree in Plant Sciences. This program allows for early planning of the M.S. portion of the student's education, along with beginning a thesis research project before the completion of the B.S. degree. It offers increased flexibility in the order in which courses are taken, and more efficient use of what would otherwise be a final semester with a light credit-hour load. As many as 6 credit hours of undergraduate coursework at the 5000 level (or 4000 level for courses in which no 5000-level course is available) may be counted toward both the B.S. and M.S. degree programs. Additionally, students retain the existing right to reserve up to 6 hours of graduate credit that may be taken during their undergraduate degree program. These 6 reserved credits will NOT count toward both the B.S. and M.S. degrees, but only toward the M.S. degree.

Admission to the program

Minimum requirements for admission to the accelerated program are:

1. completion of sophomore year, 60 credit hours;

2. a minimum overall GPA of 3.0;

3. a minimum GPA of 3.0 in PLNT, RNEW, and REWM courses;

4. a minimum of three letters of recommendation (at least two must be from faculty at UW);

5. a DPS fculty member willing to serve as M.S. advisor; and

6. a research proposal submitted to, and approved by, the student's M.S. advisor and at least one other Plant Sciences faculty member as a presumptive graduate committee member.

Transfer students must have also completed at least 15 credit hours of coursework at UW to be eligible for admission to this program.

If interested in this program, please visit our website at http://www.uwyo.edu/plantsciences/ for further information on additional requirements.

Other Programs

Life Sciences

Life Sciences Program

107 Aven Nelson Building, 766-4158 Web site: www.uwyo.edu/lifescience

Program Director: Jonathan Prather

The Life Sciences Program consists of all LIFE prefix courses. These courses support a wide range of life science majors and several non-life science majors across campus. The number of LIFE courses taken by students in each major is determined by the departments that offer the majors. The curriculum intends to provide science majors with both breadth and depth in the

basic life sciences, and nonscience majors with exposure to key concepts in biology and an understanding of the connections between science and society. The program courses also expose students to the fields of cell and molecular biology, genetics, ecology, and evolution, and they familiarize students with the diversity of life on the planet. Courses within the curriculum address four fundamental goals at a level appropriate for each course: 1. Acquisition, Application and Synthesis of Knowledge 2. Communication Skills 3. Critical Thinking and Problem Solving 4. Research Skills The Life Sciences courses listed below were previously offered under the BIOL prefix. All courses listed below are now offered through the LIFE prefix.

College of Arts & Sciences

113 Arts and Sciences Building

J. Scott Turpen, Dean
Phone: (307) 766-4106 FAX: (307) 766-2697
Web site: www.uwyo.edu/as

Aims and Objectives

The College of Arts and Sciences (A&S) is committed to providing a balanced education that matches cultural breadth with disciplinary depth. Students learn to address complex contemporary problems and to place them in their wider social, historical, and ethical contexts. To achieve these goals, degree programs require students to develop expertise in a particular field, gain critical understanding of major areas of human knowledge, and select from required courses and free electives to prepare for the challenges of the 21st century.

A successful student in any program in the College of Arts and Sciences will have an excellent foundation for professional success, graduate study, and a passion for lifelong learning.

Through hands-on research and creative projects (either faculty projects or independent projects with faculty mentoring), fieldwork, internships, and study abroad, students integrate classroom learning with real-world experience and application.

Student Responsibilities

To graduate from the College of Arts and Sciences, students must satisfy all university, college, and major requirements for a given degree. These requirements apply whether the work is taken within the college or transferred from anywhere else within or outside the university (refer to section below "Acceptance of Transfer Credit").

The college holds students responsible for completing degree and major requirements, including the necessary courses. Students are also expected to know the academic standards, communicated in university regulations, that must be maintained to continue study at the university. Students should be aware that changing majors and/or colleges may result in delays in meeting degree requirements and that requirements themselves sometimes change (see "Graduation Requirements and Procedures" section of this *Catalog*).

Academic Advising

To help plan a program of study, an academic advisor in the College of Arts and Sciences Advising Center is assigned to each student. Students who are undecided about a major are advised in the UW Advising, Career, and Exploratory Studies office (222 Knight Hall).

Students should consult regularly with their academic advisor not only for course scheduling but also to discuss educational and career goals. Faculty and professional advisors can connect students to the many college and university resources to assist

undergraduate study. Instructors are also willing to discuss concerns students may have regarding specific courses.

Changing/Declaring a Major or Minor

When ready to declare or change a major, minor, or dual/concurrent major in a program in the college, a student can obtain the appropriate form from the Office of the Registrar (167 Knight Hall) or the Registrar's Web page. Approval is required from the appropriate Department Heads or Program Directors, and a new advisor may be assigned.

Programs of Study

Undergraduate Degrees

A variety of specialized concentrations are offered within many of the following degree programs. These are described in the Department sections of this *Catalog* and/or in the Departments' individual websites. Additionally, there are several inter-college or interdisciplinary degrees/majors such as International Studies and the affiliated major in Environment and Natural Resources that draw courses from several disciplines. For more detailed descriptions, click on the A-Z Directory.

Bachelor of Arts

African American and Diaspora Studies
American Studies
Anthropology
Art Education
Art History
Communication
Criminal Justice
English
French
Gender and Women's Studies
German
History

International Studies
Journalism
Music
Native American and Indigenous Studies
Philosophy
Political Science
Religious Studies
Sociology
Spanish
Studio Art
Theatre and Dance

Bachelor of Science

Communication
Political Science
Psychology

Bachelor of Fine Arts

Studio Art
Theatre and Dance, Acting Performance Concentration
Theatre and Dance, Musical Theatre Performance Concentration
Theater and Dance, Theatre English Concentration
Theatre and Dance, Dance Performance Concentration
Theatre and Dance, Dance Science Concentration
Theatre and Dance, Design Tech Management Concentration
Visual Communication Design

Bachelor of Music

Jazz Performance
Music Education
Music Performance

Graduate Degrees

Master of Arts

American Studies *(interdisciplinary)*
Anthropology

Communication
English
History
International Studies *(interdisciplinary)*
Political Science
Spanish

Master of Science

Psychology

Master of Fine Arts

Creative Writing

Master of Music

Master of Music Education

Master of Public Administration

Doctor of Philosophy

Anthropology
Psychology

Minors in Arts and Sciences

The College of Arts and Sciences offers all university students systematic studies leading to recognized academic minors. Minors are available in all academic programs in the college and in numerous interdisciplinary areas.

A&S minors have two aims: to encourage students to create a focus for their course-work outside their major by coordinating their elective studies; and to enhance opportunities for employment or graduate admission with a formally recognized field of study.

Minors consist of course requirements ranging from 18-24 credit hours of study, typically including significant work at the junior and senior level. A&S departments and programs offering minors and interdisciplinary degrees may have further conditions and restrictions regarding requirements in the minor. To be counted

toward a minor, courses must be completed with a grade of C or better.

Students desiring a minor must notify the department in which the minor is offered. Forms for declaring a minor are available in the Office of the Registrar (167 Knight Hall) or on the Registrar's Web page (see Change of Major form). An advisor for the minor will be assigned by either the College of Arts and Sciences Advising Center or, in some cases, the department of the minor.

For detailed descriptions of the minors in A&S, see Department offices or websites.

Minors available from A&S Departments/Schools include:

Department of Anthropology
Anthropology

Department of Communication and Journalism
Communication
Journalism
Marketing Communication
Public Relations

Department of Criminal Justice and Sociology
Criminal Justice
Interdisciplinary Pre-law
Sociology

School of Culture, Gender, and Social Justice
African American and Diaspora Studies
American Studies
Gender and Women's Studies
Latina/o Studies
Native American and Indigenous Studies
Queer Studies

Department of English
Creative Writing
Literary Studies
Professional Writing

Department of History
History

School of Politics, Public Affairs, and International Studies
American Politics

Asian Studies
European Studies
International Relations and Comparative Government
International Studies
Middle East and North Africa
Political Theory
Public Law

Department of Modern and Classical Languages
Chinese
Classical Civilization
French
German
Japanese
Latin
Spanish

Department of Music
Music

Department of Philosophy and Religious Studies
Environmental Values
Ethics
Philosophy
Religious Studies

Department of Psychology
Aging Studies
Psychology

Department of Theatre and Dance
Acting Performance
Dance
Design, Technology, and Management
Musical Theatre Performance
Theatre
Theatre Dramaturgy
Young Audiences

Department of Visual Arts
Art History
Ceramics
Digital Media
Drawing
Metalsmithing
Museum Studies
Painting
Photography
Printmaking
Sculpture

Certificates
American Studies
Audio Technology
Arts Entrepreneurship

College Degree Requirements- The 2015 A&S Core

Bachelor of Arts or Science Programs

Beginning fall 2015, new university and college general education curricula, the 2015 University Studies Program (USP) and the 2015 A&S Core, were implemented. Refer to the USP section of this *Catalog* for details regarding University Studies requirements.

Students who matriculate for the first time at UW or a Wyoming community college in fall 2015 or after are required to follow both the new USP and A&S Core curricula. Students transferring from a Wyoming community college with an Associate's degree, having completed the Wyoming Core between May 2013 and fall 2015, may continue to complete the 2003 USP and 2003 A&S Core requirements (if there has been no interruption in their enrollment for a year or more). Students who matriculated at UW or a Wyoming community college prior to fall 2015 and choose the 2015 USP must also complete the 2015 A&S Core requirements. For additional information please refer to the sections in this *Catalog* that describe the university graduation requirements, the 2015 University Studies Program, and the policies for re-enrolling at UW after an absence of a year or more.

I. College credit hour requirements

- **Minimum total semester hours 120**

- **Upper-division credit requirements (42).** Thirty of the 42 hours must be earned from UW. Courses must be taken for a letter grade unless offered for S/U only. This is an all-university requirement for all degree programs and may come from the courses that fulfill the USP, the A&S Core, the major, the minor, and electives.
- **Major field of study (30-60).** In addition to attaining all credits required by the major, students are required to earn 60 credits outside the major. Credits in AS internship, independent study, or special topics courses (AS 2400, AS 2490, AS 4400, AS 4500, AS 4510, AS 4900, and AS 4975) may not be used to fulfill these outside the major requirements. At least 30 hours of C grade or better must be earned in the major subject (the major may require more). Courses in the major must be taken for a letter grade unless offered for S/U only.
- **A&S Core requirements (6).** Courses must be taken for a letter grade unless offered for S/U only.

All other university and college regulations apply. See the "Graduation Requirements and Procedures" section of this *Catalog* for more information. Graduate level "Enrichment" courses do not count toward the requirements for a bachelor's degree.

II. 2015 A&S Core Curriculum

Graduates of the College of Arts and Sciences are expected to be liberally educated, to have the knowledge and skills to deal with the unexpected, and to see opportunities from multiple perspectives. To develop these abilities, the college faculty implemented the A&S Core.

Search in WyoWeb (find WyoRecords, then Register for Classes, then Browse Classes) to find upcoming courses meeting the following requirements:

- **U.S. Diversity (ASD).** This requirement allows students to explore the complexity of cultural identities in the U.S. and interdependence of the cultures. Students

will gain an understanding of the influences of categories such as race, class, ethnicity, gender, disability, sexual orientation, religion, and age on American behaviors, institutions, values, and beliefs.

- **Global Awareness (ASG).** Because citizens ever more frequently encounter behaviors and practices based on beliefs, conditions, and assumptions different from their own, they need to understand the nature and function of culture. Our students should have an awareness of the multiple links that affect the living conditions and range of action of peoples of the world, including international systems of commerce, art, science, technology, politics, communication, belief, and justice, among others.

College Degree Requirements Prior to Fall 2015 for Continuing and Reenrolling Students

A&S Core requirements for a student continuing a degree program in effect at the time of matriculation at UW are found in the relevant previous *Catalog*. Contact the A&S Advising Center, Ross 6, 766-4013, asadvise@uwyo.edu.

Students who re-enter the university after an absence of a year or more should refer to other sections of this Catalog for university policies and procedures. Unless approved otherwise, reenrolling students, after a year's absence, are required to follow the University Studies and A&S Core requirements in effect the semester of their re-enrollment. However, all majors in A&S who have yet to complete the A&S Core, regardless of their initial enrollment, must refer to the current list of approved courses.

Lists of courses that satisfy A&S college core requirements are available on the Web at www.uwyo.edu/as. Assistance with learning to Browse classes and to understand

the Degree Evaluation can be obtained from the A&S Advising Center, Ross 6, 766-4013, asadvising@uwyo.edu.

Departments and programs in the College of Arts and Sciences may require reenrolling students to complete requirements in the major that meet the current expectations of the discipline.

Transfer Students and Acceptance of Transfer Credit

The College of Arts and Sciences and its Departments reserve the right to grant transfer credit toward the bachelor's degree only for those courses where a grade of C or better was earned. Students transferring credits from a university or college outside Wyoming with questions about how courses taken elsewhere fulfill the A&S Core may contact the A&S Advising Center, Ross 6, 766-4013, asadvise@uwyo.edu.

Courses Taken for S/U Credit

Students may include up to 20 semester credit hours in free electives with a grade of S as part of the total hours required by the College of Arts and Sciences for graduation. However, no S/U hours may be used to satisfy university and college core general education requirements or major requirements, including the required 42 upper-division credit hours unless the course is offered for S/U grading only.

Students registering in courses for S/U grades are subject to all general regulations.

Concurrent Majors

Students may pursue two or more majors simultaneously. With careful planning, A&S students may be able to use all or most of

the free elective hours for requirements in the other majors. Refer also to the section, "Graduation Requirements and Procedures" in this *Catalog*.

The A&S Core must be met only once by students whose primary major is in the College of Arts and Sciences. Students whose degree programs are in other UW colleges are welcome to earn a concurrent major in A&S. These students do not have to meet the A&S Core requirements. The student earns one degree with one diploma.

Students pursuing a concurrent major must contact both departments involved for assignments to advisors.

Dual Degrees

Students may simultaneously pursue degrees in the same or more than one UW college. In addition to requirements described in the section "Graduation Requirements and Procedures" in this *Catalog*, students in another UW college who wish to earn a degree from A&S must also complete the A&S Core. A&S students working on dual degrees in the A&S College need to meet the A&S Core just once. A diploma is awarded for each degree.

Each additional degree requires 30 more credit hours added to the 120 credits to the primary degree. Of these 30 credits, 12 must be at the 3XXX-4XXX levels.

Second Bachelor's Degrees

For those students whose **first degree is from another university** and who seek a second bachelor's degree from the College of Arts and Sciences, the minimum requirements include:

- 30 semester hours earned from the University of Wyoming, 12 of which must be upper division (3XXX-4XXX level) or graduate level (credit by examination does not count as UW hours).

- Completion of the U.S. and Wyoming Constitutions requirement (V courses in the University Studies Program course list in this *Catalog*).
- *If the first degree is from an institution where English is not the predominant language*, successful completion of the COM1 and COM2 requirements of the University Studies Program is required.
- Students must also meet the 2015 A&S Core requirements.

For students whose **first degree is from UW**:

- The additional required 30 hours (12 of these at the 3XXX-4XXX) are added to the degree requiring the least number of hours. For example, for a first degree, A&S requires 120 hours. Thus, the total credits a UW student would have to complete for the second bachelor's degree is a minimum of 150 credits. Since the University requires a total of 42 upper division hours for a degree, for the second degree from A&S, a UW student would need to earn a total of 54 hours at the 3XXX-4XXX level. For more information, please see the Second Bachelor's Degree entry in the section, "Graduation Requirements and Procedures" in this *Catalog*.
- Students whose **first degree is from another UW college** must meet the 2015 A&S Core requirements.
- In situations in which a student is subsequently required to take coursework from another collegiate institution to fulfill major and overall hour requirements for a second degree from the university, the student's department can ask the Office of the Registrar to load selected courses into the student's record.

Concurrent Major in Environment and Natural Resources

A student majoring in any A&S department/program may earn a double major by completing the courses required for the Environment and Natural Resource

(ENR) program in addition to the requirements in their A&S major and the College A&S Core. See the Haub School of ENR Web site, http://www.uwyo.edu/enr for detailed information or contact the School at (307) 766-5080.

Preprofessional Studies

The College of Arts and Sciences prepares students to enter professional schools through preprofessional programs of study described below.

Prelaw Study. Students usually need a bachelor's degree prior to beginning the study of law. There is no prescribed course of undergraduate study and no restrictions as to the field in which the degree is earned. However, to prepare for this competitive profession, prelaw students are advised to select courses that help to develop those talents and skills essential to the study and practice of law. Logical and critical thinking, conflict evaluation/resolution and effective verbal/nonverbal communication skills are essential. Additionally, students should understand the political, economic, social/cultural institutions, and values that characterize human society. Rigorous courses in any discipline increase abilities in these areas. Pertinent to the prelaw major, courses in the broad liberal arts, including the sciences, social sciences, fine arts, and humanities, increase understanding of the public's diverse interests and backgrounds.

Prelaw students do not have to declare a major at the time of first enrollment if they wish to explore options. Students who are undeclared in the College of Arts & Sciences are assigned advisors in the Advising, Career, and Exploratory Studies office until they decide upon a degree program. Please note that a prelaw minor is available.

In addition to consulting their major advisor, prelaw students may contact the designated UW prelaw advisor for assistance in developing a program of study, for career

counseling, and for guidance in applying to law schools. Contact the A&S Advising Center, Ross 6, 307-766-4013, asadvise@uwyo.edu for information.

Detailed information about applying to law schools, the Law School Admissions Test (LSAT) and preparation materials, and links to other websites are at www.LSAC.org.

Library Preprofessional Study. Librarians are information professionals who research, organize, and classify materials so the public can access information. Not only do they work with printed materials, but all the technological advances in digital media such as electronic databases and eBooks. Some librarians focus on teaching the public, scholars, and students how to access and use these materials, while others concentrate on collecting and maintaining these diverse resources. Librarianship offers many career opportunities to people of different academic backgrounds, interests, and talents. Most public, academic, and special libraries require librarians to have a Master's Degree in Library Science (MLS).

The degree programs and minors in the College of Arts and Sciences offer the variety of academic preparation expected by accredited library schools in the country. Most graduate schools in library science require a successful applicant to have a Bachelor's degree, a good undergraduate record, and a reading knowledge of a foreign language for admission. The best undergraduate preparation includes a wide range of courses in the sciences, social sciences, and humanities along with a strong concentration in one subject area. The choice of a major will be determined by the student's academic interest and professional objective. The general education that the University Studies and the A&S Core require provide the well-rounded background graduate schools expect of MLS candidates.

Additional information about library schools, their requirements, and programs as well as career opportunities may be obtained from the reference desk at Coe Library and the Center for Advising and Career Services. The U.S. Bureau of Labor Statistics

"Occupational Outlook Handbook" at www.bls.gov/ooh/ has detailed descriptions of the varied work of librarians, working conditions, employment outlook, and sources for additional information.

Pre-Health Study. Students in several A&S majors may be working toward the following careers: athletic training, chiropractic, dentistry, medicine, occupational therapy, optometry, physical therapy, physician assistant, or public health. These professional schools are favorably impressed by a broad educational background, including a substantial number of non-science and science courses; therefore, students are well advised to look beyond the minimum requirements.

Students may select any major in which they are interested to prepare for such careers. In addition to completing all university, college and departmental requirements, students must include in their curriculum the basic professional school requirements, including courses in biology, chemistry, math, and physics. Professional schools have other specific requirements and students should seek information about any additional recommendations from the professional schools in which they are interested. We strongly suggest contacting the Pre-Health Advising office [College of Health Sciences, 110 Health Sciences, (307) 766-3878, or hsadvise@uwyo.edu] website: www.uwyo.edu/preprof/.

Psychology is a common major in the College of A&S for these preprofessional programs. However, there are pre-health students in programs as diverse as Anthropology and Theatre & Dance. Students need not declare a major immediately upon first enrollment. Advisors in individual departments can discuss options or, if students wish to remain undeclared, they are advised in either the UW Advising, Career, and Exploratory Studies office or the Health Sciences Advising office.

The pre-health advisors in the College of Health Sciences have current information regarding professional school admission requirements, entrance examinations,

programs in Western Interstate Commission on Higher Education (WICHE), the Wyoming Medical Contract Program WWAMI (affiliated with the University of Washington School of Medicine) and financial assistance for professional education. The website, http://www.uwyo.edu/preprof/ includes additional information.

Internships

Many departments in the College of Arts and Sciences offer internships for academic credit, and some provide monetary compensation. Academic internships provide practical, hands-on experience in a professional job setting as a complement to classroom instruction. An internship can provide students with both insight and preparation for future jobs. All internships require a strong background in writing, organizational ability, and analytic skills. Junior or senior standing is recommended.

Major

African American and Diaspora Studies, B.A.

African American and Diaspora Studies (AADS) offers undergraduates an opportunity to engage in an interdisciplinary examination of the history, culture, and life of African Americans and the African diaspora from ancient times to the present day.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 creits)

Major Requirements

The B.A. in African American and Diaspora Studies consists of 35 credit hours:

Core Courses

15 credit hours of core course requirements:

- AAST 1000 - Introduction to African American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- AAST 2360 - African American History Credits: 3
- AAST 3130 - Global Impact of African Cultures Credits: 3
- AAST 4975 - Independent Research Credits: 1-3

Lower Division Course

3 or 6 credit hours of a lower division (1000- or 2000- level) AAST course, excluding core courses. Chose one OR two of the following:

- AAST 1030 - Social Justice in the 21st Century Credits: 3

or

- AAST 1101 - First-Year Seminar Credits: 3

or

- AAST 2350 - Introduction to African American Literature Credits: 3

or

- AAST 2360 - African American History Credits: 3

or

- AAST 2370 - Blues and African American Lit Credits: 3

or

- AAST 2450 - Traditional African Religion Credits: 3

or

- AAST 2490 - Topics: Credits: 1-3 or 3

Upper Division Courses

6 or 9 credit hours of upper division (3000- or 4000-level) AAST courses. Choose two OR three of the following:

- AAST 3000 - African American Studies in Music Credits: 3

or

- AAST 3010 - The African American Aesthetic Credits: 3

or

- AAST 3130 - Global Impact of African Cultures Credits: 3

or

- AAST 3260 - African Spirits in the New World Credits: 3

or

- AAST 3670 - African Diaspora Credits: 3

or

- AAST 3933 - African Philosophy Credits: 3

or

- AAST 4000 - Black Freedom Movement, AAST 1955- Present Credits: 3

or

- AAST 4020 - The Black West Credits: 3

or

- AAST 4050 - Development, Africa, and Culture Credits: 3

or

- AAST 4100 - African American Religious Culture Credits: 3

or

- AAST 4160 - African American Rhetoric Credits: 3

or

- AAST 4233 - Race, Gender, Ethnicity in the Media Credits: 3

or

- AAST 4250 - The Harlem Renaissance Credits: 3

or

- AAST 4260 - Rhetoric and Social Justice Credits: 3

or

- AAST 4450 - African American Novel Credits: 3

or

- AAST 4455 - Slavery and Freedom Credits: 1-4

or

- AAST 4675 - USWomen of Color Credits: 3

or

- AAST 4970 - Internship in AAST Credits: 1-12

or

- AAST 4975 - Independent Research Credits: 1-3

or

- AAST 4990 - Topics: Credits: 3

Foreign Language

8 credit hours of a single foreign language. The courses below list some, but not all, possible options:

- ARBC 1010 - First Year Arabic I Credits: 4

and

- ARBC 1020 - First Year Arabic II Credits: 4

or

- FREN 1010 - First Year French I Credits: 4

and

- FREN 1020 - First Year French II Credits: 4

or

- GERM 1010 - First Year German I Credits: 4

and

- GERM 1020 - First Year German II Credits: 4

or

- JAPN 1010 - First Year Japanese I Credits: 4

and

- JAPN 1020 - First Year Japanese II Credits: 4

or

- LATN 1010 - First Year Latin I Credits: 4

and

- LATN 1020 - First Year Latin II Credits: 4

or

- SPAN 1010 - First Year Spanish I Credits: 4

and

- SPAN 1020 - First Year Spanish II Credits: 4

Additional Requirements

Grade Requirements

AAST classes applied to AAST degrees must be passed with a grade of C or better.

Additional Information

In order to provide a broader range of relevant and enriching courses, in any given year the program in AAST offers topics courses and courses cross-listed with other majors and departments.

American Studies, B.A.

Explore cultural experiences past and present through interdisciplinary study of American lives, communities, and ideas. Writing, critical thinking, and internship opportunities prepare you for careers in education, law, business, community non-profits, public institutions, or graduate study. Flexible 2nd major for any field and for transfer students.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

College of Arts and Sciences Core

D - Diversity Credits: 3

G - Global Credits: 3

Curriculum

Through the following curriculum, students develop individual programs of study, with their advisers, to understand and engage American cultures.

Students pursuing Program Honors should also write an undergraduate thesis. Contact the Program Director for more details.

Foundation (12 credit hours)

- AMST 2010 - Introduction to American Studies (3 credit hours)
- One course at the 1000- or 2000-level in an interdisciplinary field, including American History, or from departments and programs such as AADS, ENR, INST, GWST, LTST, NAIS, RELI, or appropriate courses transferred from other institutions, to be named in the program of study in consultation with an American Studies advisor. (3 credit hours)
- Two courses at any level outside AMST, from programs in The School of Culture, Gender, and Social Justice or appropriate substitutes in consultation with an American Studies advisor. (6 credit hours)

Concentration (27 credit hours)

Core (9 credit hours)

Each student must take three AMST courses at the 3000-4000 level, excluding the senior seminar. These seminars are designed to maintain an interdisciplinary view of American culture and to foster an American Studies community. (9 credit hours)

Theme (18 credit hours)

An American Studies theme is devised, in consultation with the student's adviser. Typical themes include: American diversity, environment and society, material culture and everyday life, visual culture and media, American cultural history, American institutions and public culture, the United States in international perspective. The theme must include a minimum of 6 credit hours and a maximum of 9 credit hours in a single discipline. Up to 3 credits can be granted for courses at the 1000-2000 level. (18 credit hours)

Capstone (6 Credits)

As part of the 6 credit hours of senior capstone requirements, each student must complete 3 credit hours of Senior Seminar. The additional 3 credit hours can be through either Independent Study or Internship.

- AMST 4985 - Senior Seminar Credits: 3

AND

- AMST 4010 - Independent Study Credits: 1-3

OR

- AMST 4970 - Internship Credits: 1-3

Additional Information

Undergraduate Major

The American Studies B.A. frames and develops each student's individual interests, and allows students to include courses from any program and department that sustain a student's engagement with their particular emphasis. Individual programs of study are as varied as our students.

We value each student as a person, and understand that an education is much more than a list of courses. Our advising is central in supporting each student's path and success through the major and beyond the degree.

Examples of concentrations that draw on courses outside American Studies - interests which we then integrate in our independent studies, internships, and the senior seminar - include sports studies, popular music history, comparative ethnic studies, marketing, military history, sustainability, disability advocacy, museum studies, philosophy of science, environmental studies, public health and social justice, and the U.S. in international perspectives. Each student develops a concentration of study with their American Studies advisor with ample room to combine courses and interests into a coherent undergraduate education.

The American Studies B.A. can be an attractive second major for students in any

UW degree program where cultural context enriches and expands work in their professional or scholarly field. The flexible nature of our B.A. allows us to work effectively with students changing majors at any point in their undergraduate experience as well as transfer students.

Program Learning Outcomes

Students graduating with a B.A. in American Studies integrate study from several fields with their study in American Studies courses, in individual programs of study. The American Studies B.A. prepares students to enter graduate and professional programs, enter education certification programs, and work in community organizations and other public professional settings. Coursework in American Studies prepares students to:

- Interpret American experiences and creative expressions by applying appropriate approaches to words, narratives, images, material objects, communities, built environments, cross-cultural comparison, continuities and discontinuities with the past in a range of American cultural settings.
- Understand the processes of diversity experience including their own, through study of identity formation, performance of identity, stereotyping, contact, memory, and national identity.
- Demonstrate critical analysis, interpretation, or insight, through effective communication primarily in writing but also in speaking (when appropriate, performance or display may embody these as well), as demonstrated in analytically coherent interpretive writing, authoritative, informed oral presentation, and well-documented, visually effective performance or display (where appropriate).
- Apply American Studies methods field-based courses and/or internships, through use of Studies approaches and competencies in non-classroom settings, as demonstrated in field course or internship evaluations and students' final reports.

Internship

The internship experience is essential for students specializing in public sector American studies. The American Studies program has an active program of scholarship-supported internships that can place students in work environments in Wyoming, other parts of the U.S., or in selected foreign countries.

Language

Because American Studies is both an international field with scholars all over the world, and the U.S. has transnational significance, **we strongly encourage students to take 2 years of language study** to achieve meaningful access to skills as readers, scholars, and travelers, and consider participating in an international exchange. Some languages currently in demand by American Studies students include Spanish, Arabic, and Japanese.

Anthropology, B.A.

Anthropology students will be able to demonstrate knowledge about the four subfields of anthropology. They will have participated in research and will be able to analyze and synthesize in relation to anthropological issues or theories.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The BA in Anthropology requires the A&S Core:

- D - Diversity (3 credits)
- G - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Specific Requirements for a B.A.

This degree requires a total of 38 credits in Anthropology, 25 of which are upper-division credits. In addition to university and college requirements listed in this *Catalog*, anthropology majors must complete two semesters of foreign language. ANTH 1100 and ANTH 1300 cannot be used to fulfill the USP PN requirement. ANTH 3300 and ANTH 3310 require an additional 1 hour of ANTH 4975.

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ANTH 1300 - Introduction to Archaeology Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3

- ANTH 3300 - Ethnographic Methods in Anthropology Credits: 3

OR

- ANTH 3310 - Introduction to Anthropology Research Methods Credits: 3

Recommended

It is recommended that anthropology majors take ANTH 1101 to fulfill the First-Year Seminar requirement, but it is not required that students take this particular First-Year course. It is also recommended but not required that students complete a course in statistics (STAT 2050 or STAT 2070) and a third semester of foreign language. Courses required by the department for the major and minor must be completed with a grade of C- or better.

Additional Requirements

Also required are an additional 21 credits of upper division anthropology for a total of 25 upper division (3000+) credits within the major, including at least one course from three different subfields (cultural anthropology, linguistic anthropology, biological anthropology, and archaeology).

Upper Division Cultural Anthropology

Courses that can be used to fulfill upper division cultural anthropology are

- ANTH 4023 - Seminar in Cultural Anthropology Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ANTH 4320 - Political Anthropology Credits: 3
- ANTH 4340 - Culture Change Credits: 3
- ANTH 4350 - Medical Anthropology Credits: 3
- ANTH 4380 - Visual Anthropology Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Linguistic Anthropology

Courses that can be used to fulfill upper division linguistic anthropology are

- ANTH 4024 - Seminar in Linguistic Anthropology Credits: 3
- ANTH 4740 - Native American Languages and Cultures Credits: 3
- ANTH 4765 - Language Humor and Games Credits: 3
- ANTH 4775 - Language and Gender Credits: 3
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Biological Anthropology

Courses that can be used to fulfill upper division biological anthropology are

- ANTH 4022 - Seminar in Biological Anthropology Credits: 3
- ANTH 4210 - Human Osteology Credits: 3
- ANTH 4215 - Hominin Evolution Credits: 3
- ANTH 4220 - Human Variation Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3
- ANTH 4255 - Bioarchaeology Credits: 3
- ANTH 4260 - Anthropology of Food, Culture, and Nutrition Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's Consent)

Upper Division Archaeology

Courses that can be used to fulfill upper division archaeology are

- ANTH 4021 - Seminar in Archaeology Credits: 3

- ANTH 4110 - Zooarchaeology I Credits: 3
- ANTH 4115 - Lithic Analysis Credits: 3
- ANTH 4120 - North American Archaeology Credits: 3
- ANTH 4125 - Northwestern Plains Prehistory Credits: 3
- ANTH 4130 - Old World Archaeology Credits: 3
- ANTH 4145 - Origins of the State Credits: 3
- ANTH 4150 - Seminar in Prehistory Credits: 1-3
- ANTH 4160 - Mapping Culture: Introduction to GIS in Anthropology Credits: 4
- ANTH 4170 - Geoarchaeology Credits: 3
- ANTH 4175 - South American Prehistory Credits: 3
- ANTH 4020 - Seminar Credits: 3-6 (with instructor's consent)

OR

- Six credits of archaeological field school (ANTH 4140 or ANTH 5180).

Art Education, B.A.

The BA in Art Education is a professional degree preparing students to be reflective, innovative K-12 art educators. The curriculum includes extensive Studio Art competencies and studies in Art History and Education.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Art Education** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 2000 - Portfolio Review Credits: 1

required

- ART 2305 - Techniques: Wood/Art Preparation Credits: 1

required

Studio Core: 12 Hours

12 credits chosen from the below. At least one core course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3

OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3

required

- ART 2020 - Art History II Credits: 3

required

Upper Division Art History: 6 hours

6 credits of upper division art history beyond ART 2010 and ART 2020

Upper Division Studio Electives: 12 Hours

12 credits of any upper division studio art classes

Art Education Program Requirements

Minimum Course Requirements for B.A. in Art Education

Minimum course requirements for Art Education Majors follow the curriculum plan for the B.A. in Studio Art Degree:

- University and College requirements,
- Foundations Core,
- Art History Core,
- Studio Core
- Upper Division Studio Electives.

The exception that there is no Foreign Language requirement. Students are required to apply for a Wyoming Substitute Teaching Certificate in the fall of their first semester in the program. Additional requirements are:

Professional Education Courses: 9 Hours

- EDST 2450 - Foundations of Development and Learning Credits: 3
  required
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3
  required
- EDEX 2484 - Introduction to Special Education Credits: 3
  required

Art Education Courses: 27 Hours

- ART 3430 - Methods I Credits: 3
  required
- ART 3490 - Philosophy, Theory and Issues Credits: 3
  required

- ART 3550 - Art Education Practicum Credits: 1-3
  required
- ART 4440 - Methods II Credits: 3
  required
- ART 4460 - Curriculum Design Credits: 3
  required
- ART 4810 - Residency for Elementary Credits: 6
  required
- ART 4820 - Residency for Secondary Credits: 6
  required

Studio or Art History Elective, any level: 3 Hours

**3 units of course in Studio Art or Art History at any level*

Additional Requirements

B.A. IN ART EDUCATION DEGREE

The BA in Art Education degree supports students' development as reflective, innovative and engaged K-12 art educators. The curriculum encompasses extensive Studio Art competencies as well as studies in Art History and Professional Education. Art Education courses cover a variety of teaching practices and methods of curriculum development that include interdisciplinary, multicultural approaches to teaching and emphasize relevance to the lives of K-12 students and the realities of our contemporary world. In-class learning is augmented with firsthand teaching experiences in local and regional schools, the University of Wyoming Art Museum, and includes teaching people of all ages in community-based arts settings. Upon graduation from our program, students earn Wyoming licensure for teaching K-12 Art.

Degree Requirements

Requirements of the degree include:

- 120 hours, including 91 hours within the major
- C or better in all courses taken to satisfy Major requirements
- Background check for all incoming art education degree students required prior to enrollment
- Application for art education degree is due prior to enrollment in Art Education courses
- 2.75 UW Total Institution GPA must be maintained throughout the Art Education Program of study
- 2.75 GPA within the major must be maintained throughout the Art Education Program of study
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses
- Score of 158 or above on the on the Praxis II Test: Art Content and Analysis by the end of the Residency semester
- As a Professional Degree, the BA in Art Education does not include the A&S Outside Major credit requirement.

Application

Students must fulfill the requirements listed in the *Application for the Art Education Program Checklist*:

- Satisfactory Completion of ART 2000 Portfolio Review
- C or above in all Education Courses
- C or above in all Art Content Courses
- Junior Standing (60+ credits)
- 2.75 or above overall UW total institutional GPA
- 2.75 or above in Major courses
- Completed background check

Probation, Removal, and Re-Application

- An Institutional and/or Major GPA below 2.75 mandates a probationary semester in the program (continuing with art ed courses) to raise GPA back up to 2.75 to continue
- If Institutional and Major GPA are not both above 2.75 by the end of the

probationary semester, the student will be removed from the program

- Students may re-apply after removal from program if their GPA is again at or above 2.75

Art History, B.A.

The BA in Art History offers students a broad understanding of world art, historiography, and professional practices. Closely linked to the Museum Studies minor, the BA prepares students for graduate work or the work force.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Art History** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Program Requirements

Requirements of the degree include:

- 120 hours, including 57 hours within the major
- All Art courses must be passed with a letter grade of C or better
- 2.50 GPA within major required
- 2.50 or above overall UW total institutional GPA
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses

Art History Core: 12 Hours

- ART 2010 - Art History I Credits: 3
required
- ART 2020 - Art History II Credits: 3
required
- ART 2030 - History of Graphic Design Credits: 3
required
- ART 2070 - Introduction to Museology Credits: 3
required

Upper Division Electives: 30 Hours

*30 units - with the following stipulations:

15 hours 3000 or 4000 level Art History Courses

6 hours of ART 4790 Art Seminar

6 hours of upper division art history taken in other departments with cross listed courses

Courses in other disciplines as applicable

Honors Courses as applicable (Honors Program)

Potential other courses on a case by case basis in consultation with art history advisor

3 credits Internship or Art History travel course in consultation with art history advisor

Cross listed and applicable courses

*6 hours of upper division are history may be taken in other departments with cross listed courses (that may have prerequisites other than Art History).

- ART 4830 - Victorian Women's Lives: Their Art, Literature and Culture Credits: 3

OR

- GWST 4830 - Victorian Women's Lives: Their Art, Literature and Culture Credits: 3

- ART 4780 - History of Women Artists Credits: 3

OR

- GWST 4780 - History of Women Artists Credits: 3

- ARE 3030 - History of Architecture Credits: 3
- AMST 4250 - The Harlem Renaissance Credits: 3

- AMST 4640 - Art and Ecology Credits: 3

- Special Topics in American Studies including travel courses (as appropriate)
- Special topics in Classical and Modern Languages-including travel courses (as appropriate)
- HIST 4077 - Book History: Topics Credits: 3

Art Seminar

*6 hours of ART 4790 Art Seminar (fulfills USP COM 3 requirement)

- ART 4790 - Art Seminar Credits: 1-3
  required **Credits / Units:** 6

Upper Division Art History: 15 hours

*15 hours 3000 or 4000 level Art History Courses

Internship or Travel

*3 credits Internship or Art History travel course in consultation with art history advisor

- ART 4400 - Internship Credits: 1-3

Foreign Language: 15 Hours

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4
- LANG 2030 - Third Semester in (TOPIC) Credits: 1-4
- LANG 2040 - Fourth Semester in: (TOPIC) Credits: 3

Additional Requirements and Description

The B.A. in Art History major offers students with a course of study that will provide depth and breadth in the history of art. Students will develop a broad understanding of world art, study the art of western and other global cultures in-depth, and explore the historiography and professional practices related to the field. Closely linked to the Museum Studies minor curriculum, the B.A. in Art History has a strong vocational application. This degree provides preparation for entry into graduate school or for students who want to enter the work force after their undergraduate education. Students will have the experience and training to enter into the cultural sector (arts or archival management, non-profit work in the arts and humanities, etc.).

Communication, B.A.

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.
Communication major Degree Requirements: This degree requires 120 credits, 21 of which are upper-division credits required for the communication major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Departmental Core Courses

In addition to the university studies requirements listed in this Catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Required Courses

- COMM 1040 - Intro to Communication Theory Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3
- Electives Credits: 15 (At least 12 elective hours must be at the 3000-level or higher of COJO courses.) The other three hours may be lower or upper division in COJO/COMM.

College of Arts and Science Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Humanities: 6-8 (H)

Communication, B.S.

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.
Communication major Degree Requirements: This degree requires 120 credits, 21 of which are upper-division credits required for the communication major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Departmental Core Courses

In addition to the university studies requirements listed in this Catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4 (4)
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4 (4)

Required Courses

- COMM 1040 - Intro to Communication Theory Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3
- Electives Credits: 15 (At least 12 elective hours must be at the 3000-level or higher of COJO courses.) The other three hours may be lower or upper division in COJO/COMM.

College of Arts and Sciences Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Physical and Natural World Credits: 6-8 (PN)

OR

- Quantitative Reasoning Credits: 6-8 (Q)

Criminal Justice, B.A.

The B.A. in Criminal Justice is a social science major that examines the causes and impacts of crime in society. Graduates go on to careers in fields such as law enforcement, homeland security, probation and parole, and victim services.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Arts & Sciences College Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

Students must complete all foundation courses with a grade of C or better.

- CRMJ 1001 - Introduction to Criminal Justice Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- CRMJ 2400 - Criminology Credits: 3
- CRMJ 2465 - Research Methods Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 3350 - Correctional Theory and Practice Credits: 3
- CRMJ 3490 - Issues in Policing Credits: 3
- CRMJ 4200 - Ethics in Administration of Justice Credits: 3

Criminal Justice Core

Students must complete any 4 courses with a grade of C or better.

- CRMJ 3250 - Juvenile Delinquency Credits: 3
- CRMJ 3400 - Deviant Behavior Credits: 3
- CRMJ 3500 - Drugs and the Criminal Justice System Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3
- CRMJ 4150 - Community-Based Corrections Credits: 3
- CRMJ 4151 - Crime Causation Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3
- CRMJ 4340 - Victimology Credits:
- CRMJ 4540 - Gender and Crime Credits: 3
- CRMJ 4550 - Crime Prevention Credits:

- CRMJ 4705 - Terrorism Credits: 3

Supporting Courses

Students must complete one three credit hour course from the list below; or 1 additional course from Criminal Justice Core. Must be completed with a grade of C or better.

- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- CRMJ 4230 - Forensic Anthropology Credits: 3
- CRMJ 4350 - Sociology of Law Credits: 3
- CRMJ 4370 - Criminal Psychopathology Credits: 3
- CRMJ 4590 - Green Criminology Credits: 3
- CRMJ 4600 - Political Violence Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3
- CRMJ 4750 - Criminal Justice Internship Credits: 1-12
- CRMJ 4760 - Child Maltreatment Credits: 3
- CRMJ 4965 - Research Hours in Criminal Justice Credits: 1-6
- CRMJ 4975 - Readings Credits: 1-3
- CRMJ 4990 - Special Topics Credits: 3

Foreign Language

Students are required to complete two semesters of the same foreign language with a grade of C or better. Two semesters of American Sign Language (SPPA 2110 & SPPA 2120) will fulfill this requirement.

Statistics

Students are required to complete STAT 2050 or STAT 2070 or SOC 2070 with a grade of C or better.

In Addition

Upper division course work that was completed more than ten years prior to graduation will not meet major requirements.

Criminal Justice, Prelaw Concentration, B.A.

The Pre-Law Concentration consists of diverse courses selected from departments across the university to help prepare students for the challenges of law school and the practice of law.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Verbal Comprehension and Expression: 3 Hours Minimum

- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3160 - Theory of Language and Society Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- HIST 4515 - American Legal History Credits: 3

Written Comprehension and Expression: 6 Hours Minimum

Students must complete any two (2) courses with a USP designation of WC or COM3.

Critical Understanding of Human Institutions and Values: 3 Hours Minimum

- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3

- PHIL 3340 - Philosophy in Literature Credits: 3 (max. 3 hours)

OR

- ENGL 3340 - Philosophy in Literature Credits: 3 (max. 3 hours)
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3500 - History of Science Credits: 3
- POLS 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- ENR 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- COJO 4260 - Rhetoric and Social Justice Credits: 3

OR

- AAST 4260 - Rhetoric and Social Justice Credits: 3

Creative and Analytical Thinking: 3 Hours Minimum

- CW 2050 - Introduction to Fiction Credits: 3

OR

- CW 2060 - Introduction to Nonfiction Credits: 3 (max. 3 hours)

OR

- CW 2080 - Introduction to Poetry Credits: 3 (max. 3 hours)

- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- STAT 4015 - Regression Analysis Credits: 3

- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3

World Cultures and International Institutions: 3 Hours Minimum

- INBU 1040 - Introduction to International Business Credits: 3

OR

- INST 1040 - Introduction to International Business Credits: 3

- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3

- INST 2310 - Introduction to International Relations Credits: 3

OR

- POLS 2310 - Introduction to International Relations Credits: 3

- PHIL 3320 - Eastern Thought Credits: 3
- ANTH 3420 - The Anthropology of Global Issues Credits: 3

OR

- INST 3420 - The Anthropology of Global Issues Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3

- INST 4340 - International Organizations Credits: 3

OR

- POLS 4340 - International Organizations Credits: 3
- INST 4370 - Global Political Economy Credits: 3

OR

- SOC 4370 - Global Political Economy Credits: 3

Electives: 9 Hours Max (3 Courses)

- ECON 1000 - Global Economic Issues Credits: 3

- COMM 1030 - Interpersonal Communication Credits: 3

OR

COJO 1030 - Interpersonal Communication Credits: 3

- COMM 1040 - Intro to Communication Theory Credits: 3

OR

COJO 1040 - Intro to Communication Theory Credits: 3

- MGT 2010 - Legal Environment of Business Credits: 3

- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- CNSL 2200 - Introduction to Student Leadership Credits: 2
- STAT 3050 - Statistical Methods Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- COJO 3190 - Cross-Cultural Communication Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3

OR

- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- ANTH 4340 - Culture Change Credits: 3

OR

- INST 4350 - Culture Change Credits: 3

- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3

Additional Information

The Department of Criminal Justice offers a Pre-Law Concentration for Criminal Justice majors that consists of courses selected from several departments across the university. These courses were chosen to help prepare students for the challenges of law school and the practice of law. Students electing the Pre-Law Concentration are urged to seek advising early.

The Pre-Law Concentration requires 27 credit hours - 18 of which must be 3000-level or above. All coursework must be completed with a grade of C or better to be counted toward the concentration.

English, B.A.

Choose from two tracks in English: Literary Studies track or English Studies track. The former focuses on the study of literature and culture, while the latter balances literary study with courses in rhetoric and composition and professional writing.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Gateway to the English Major - 3 Hours

- ENGL 2025 - Introduction to English Studies Credits: 3

Historical Period - 12 or 15 hours

English Studies Track: 12 hours

Literary Studies Track: 15 hours

English Studies Track students take one of the following seven courses. Credits / Units: 3 or 6

Literary Studies Track students take two of the following seven courses. Credits / Units: 3 or 6

- ENGL 2340 - Native American Culture and Literature Credits: 3

- ENGL 2350 - Introduction to African American Literature Credits: 3

- ENGL 2360 - Mexican American Literature Credits: 3

- ENGL 2425 - Literatures in English I Credits: 3

- ENGL 2430 - Literatures in English II Credits: 3

- ENGL 2435 - Literatures in English III Credits: 3

- ENGL 2440 - Rhetoric & Writing Credits: 3

Take three of the following five courses: Credits / Units: 12

- ENGL 3200 - Topics in: Medieval Literature Credits: 3

- ENGL 3300 - Topics in: Renaissance Literature Credits: 3

- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3

- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3

- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Expanding the Canon - 6 Hours

A full list of courses that fulfill the Expanding the Canon requirements will be published each semester. Generally speaking, these courses will cover topics

related to racial diversity, global literatures, gender, sexuality, or disability studies. ENGL 2340/2350/2360 can be taken either as an Expanding the Canon course OR as an Historical Period course. The Expanding the Canon options are always changing, but will always include the following:

- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2345 - American Indians in Hollywood Film Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3
- ENGL 2360 - Mexican American Literature Credits: 3
- ENGL 3330 - Global Shakespeare in Performance Credits: 3
- ENGL 3610 - Non-Western Women Writers Credits: 3
- ENGL 4455 - Slavery and Freedom Credits: 1-4
- ENGL 3710 - Gender: Humanities Focus Credits: 3
- ENGL 4460 - American Indian Literature Credits: 3
- ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3
- ENGL 4450 - African American Novel Credits: 3
- ENGL 4470 - Studies in Chicano Folklore Credits: 3
- ENGL 4640 - Studies in Emerging Fields and Approaches Credits: 3
- Please note that only ENGL 4640: Postcolonial Literature & Theory counts towards the Expanding the Canon Requirement **unless otherwise specified in a given semester**.

Methods - 3 Hours

Chose the methods course that corresponds with your track.

Literary Studies Track:

- ENGL 3000 - Literary Theory Credits: 3

OR

English Studies Track:

- ENGL 3010 - Approaches to Rhetoric, Composition Pedagogy, and Professional Writing Credits: 3

Foundations of Language - 3 Hours

This requirement is for the English Studies Track only.

- ENGL 4780 - History of the English Language Credits: 3

OR

- ENGL 4785 - Linguistics, Language Teaching and Social Context Credits: 3

OR

- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3

OR

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3

Electives - 6 hours

Literary Studies: Students can select from any of our courses for credit in this category. One of the two electives must be in either Rhetoric & Composition or Creative Writing.

English Studies: Two courses from the list of Rhetoric/Composition/Professional Writing classes offered by English. See the examples below:

- ENGL 2005 - Writing in Technology and the Sciences (3 Credits)
- ENGL 2035 - Writing for Public Forums (3 Credits)
- ENGL 2125 - Writing Tutor Pedagogy/Practicum (3 Credits)
- ENGL 3020 - Culture, Communication, Work (3 Credits)
- ENGL 4010 - Technical Writing in the Professions (3 Credits)
- ENGL 4020 - Editing for Publication (3 Credits)
- ENGL 4025 - Writing for the Web (3 Credits)

- ENGL 4030 - Writing for Magazines (3 Credits)
- ENGL 4040 - Rhetoric, Media, and Culture (3 Credits)
- ENGL 4061 - Rhetorical Theory and Criticism (3 Credits)
- ENGL 4075 - Writing for Non-Profits (3 Credits)

Capstone - 3 Hours

Advanced standing in English is required for all majors prior to taking the senior seminar. To be eligible for advanced standing in English, the student must have completed 24 hours of English coursework above COM1, including the required 2000-level Historical Period courses. Each course must have been passed with a grade C or better. Approved transfer courses from other institutions will satisfy the prerequisites for advanced standing. ENGL 4999 should be taken in the next to last semester before graduation.

- ENGL 4999 - Senior Seminar Credits: 3

Additional Requirements

All English Education students are required to take the English Studies track. Students should consult with an advisor to declare a track in Literary Studies or English Studies before their junior year.

The English major requires 36 hours of work within the major and an additional 12 hours of a single foreign language. 21 of the hours within the major must be taken at the upper division. Only those courses in which a grade of C or better has been earned may count toward the 36 hours required for the B.A. and the foreign language requirement. No 1000-level courses count toward the B.A.

Prerequisites

Most 2000-level courses require the completion of the COM1 requirement. Normally, 3000-level courses have the COM1, ENGL 2025, and one 2000-level "broad historical sweep" course (one

of ENGL 2425, ENGL 2430, ENGL 2435, ENGL 2340, ENGL 2350, ENGL 2360) as prerequisites, and 4000-level courses have 6 hours of 2000-level English courses as prerequisites. Students without certain prerequisites should consult the English department for permission to enroll.

European Languages, Literature and Film Studies, B.A.

The BA European Languages, Literature and Film Studies curriculum builds upon existing UW language minors and established humanities coursework in French, German, and Spanish.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

C2 - Communication 2 Options:

- FREN 3050 - Third Year French I Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3 OR INST 2280
- SPAN 3050 - Third Year Spanish I Credits: 3

  OR

  SPAN 3030

C3 - Communication 3 Options:

- FREN 4200 - Introduction to Research Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Required Interdisciplinary Coursework that all Majors Take = 12 Credits

Taught in English with bilingual option taught in English and the target language.

- HIST 2280 - Introduction to European Studies Credits: 3 (Cross-listed with INST 2280)

  OR
- HIST 4990 - Topics in _____ Credits: 1-6

- LANG 1000 Intro to Film Studies (3 credits)
- LANG 4300 Fundamentals of Linguistics for Non-Linguists (3 credits)
- LANG 4800 Advanced Instruction in Film Studies (3 credits)

FRENCH TRACK-- 30 Credits of French

Coursework (plus USP Com 2 and Com 3)

- FREN 1010 - First Year French I Credits: 4
- FREN 1020 - First Year French II Credits: 4
- FREN 2030 - Second Year French I Credits: 4
- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3

GERMAN TRACK: 30 credits of German Coursework, 3 courses of which are in residency

- GERM 1010 - First Year German I Credits: 4
- GERM 1020 - First Year German II Credits: 4
- GERM 2030 - Second Year German I Credits: 4
- GERM 2040 - Second Year German II Credits: 3
- Plus 9 credits of 3000+level German Electives
- Plus 5 credits of German Electives (could incl: GERM conversation, LANG 2000 GERM for Specific Purposes, LANG 4800 WLD or SPARK Internship. Up to 16 credits can be earned in Study Abroad in place of required coursework.)

SPANISH TRACK: 31 credit hours of Spanish Coursework (plus USP

Com 2 and Com 3 listed above)

- SPAN 1010 - First Year Spanish I Credits: 4
- SPAN 1020 - First Year Spanish II Credits: 4
- SPAN 2030 - Second Year Spanish I Credits: 4
- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 2140 - Introduction to Reading Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4180 - Advanced Cultural Studies in Hispanic Lit/Media Credits: 3

Recommended Elective Courses

Interdisciplinary European coursework taught in English or target language, with bilingual option

- CLAS 4990 - Topics in Classical Civilization Credits: 1-4
- CLAS 4230 - Greek Tragedy Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- GERM 1101 - First-Year Seminar Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3

- GERM 4285 - 20th/21st Century German Film Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

  *HIST 4990 Nazi Germany and the Holocaust (3 credits)
  *HIST 4990 Europe after 1945 (3 credits)
  *HIST 4990 Weimar Germany: Hope and Tragedy (3 credits)
- INST 2200 - Politics of Europe Credits: 3 OR POLS 2200
- INST 4215 - European Union Credits: 3
- INST 4315 - History, Politics and Memory of the Holocaust in Europe Credits: 3
- LANG 2000 Intro to Languages for Specific Purposes (3 credits)
- LANG 3000 Language for Specific Purposes-Variable Topics (3 credits)
- LANG 4800 World Language Day (up to 3 credits) LANG 4800 Día de los muertos (up to 3 credits)
- LANG 4800 European folk tales (3 credits) LANG 4800 Masterpieces of European Literature in Translation (3 credits)
- LANG 4800 Advanced Study in German Conversation (up to 5 credits)
- LANG or SPAN 1101 FYS-The Linguistics of Food (3 credits)
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- SPAN 3100 - Survey of Spanish Literature Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- THEA 1000 - Introduction to Theatre, TV & Film Credits: 3

Total Credit Hours: 121 Credits

French, B.A.

The main goal of French courses will be to emphasize "the development of communication skills in French through the

four language skills: listening, speaking, reading, and writing". Each course introduces students to French and Francophone cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites - 12 Credits

- FREN 1010 - First Year French I Credits: 4
- FREN 1020 - First Year French II Credits: 4
- FREN 2030 - Second Year French I Credits: 4

> A language major requires 30 hours of credit in a single language above 2030

Required Courses

- FREN 2040 - Second Year French II Credits: 3
- FREN 2130 - Contemporary French Culture Credits: 3

OR

- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- Plus 6 hours of electives in French at the 4000-level (See Electives list in Minor Requirements)

Minor Program Requirements - 18 Credit Hours

Required Minor Classes

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- Electives - 9 hours of French Courses at the 3000 course level or 4000 course level (Choose from Elective list below)
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 3990 - Independent Study Credits: 1-4
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3

- FREN 4120 - Medieval French Literature Credits: 3
- FREN 4140 - 17th Century French Literature Credits: 3
- FREN 4200 - Introduction to Research Credits: 3
- FREN 4250 - 19th Century French Literature Credits: 3
- FREN 4260 - 20th Century French Literature Credits: 3
- FREN 4350 - Studies in French and Francophone Literatures Credits: 3
- FREN 4990 - Advanced Independent Study Credits: 1-3

Gender and Women's Studies, B.A.

Provides foundational knowledge in historical and contemporary issues related to sex, gender, and sexuality. Upon completion, students will be able to apply intersectional feminist and gender theories to interdisciplinary research and practice.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 credits)

Requirements

The GWST major requires 30 credit hours of GWST courses, including 9 credits of core courses and 21 credits of elective courses.

Please note, curriculum requirements reflect updates effective Fall 2022, so any courses completed under the previous requirements will still count. Details are listed below.

Introductory Core: 3 Credits

Complete ONE course from the following:

- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3

  Note: If taken prior to Fall 2022, GWST 1900, Women & Leadership can satisfy this requirement.

Interdisciplinary Theory Core: 6 Credits

Complete TWO courses from the following:

  Core course required for all majors:

- GWST 3600 - Gender, Race, Sex & Social Systems Credits: 3
- Note: If taken prior to Fall 2022, these courses may satisfy this requirement: GWST

3710, Gender & Humanities; GWST 2500, Gender & Society

Choose ONE of the following:

- GWST 4700 - Feminist Theories Credits: 3
- GWST 4430 - Queer Theory Credits: 3

Electives: 21 Credits

Complete SEVEN courses or 21 credit hours from among the following:

- GWST 1030 - Social Justice in the 21st Century Credits: 3
- GWST 2070 - Gender and Religion Credits: 3

- GWST 2450 - Topics in Gender & Women's Studies Credits: 1-4
- GWST 2050 - Women and Leadership Credits: 3
- GWST 2389 - History of Women in the American West Credits: 3
- GWST 2400 - Gender and Disability Credits: 3

- GWST 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3200 - Perspectives in Chicana Studies Credits: 3
- GWST 3300 - Psychology of Gender Credits: 3
- GWST 3400 - Popular Music and Sexualities Credits: 3
- GWST 3710 - Gender and Humanities Credits: 3
- GWST 3800 - Chicanas/os in Contemporary Society Credits: 3

- GWST 4065 - Black American Rhetorics Credits:
- GWST 4066 - Rhetorics of Social Justice Credits:
- GWST 4067 - Race, Gender, Media, and Rhetoric Credits: 3
- GWST 4200 - Gender and Race in the Economy Credits: 3
- GWST 4300 - The Politics of Sexuality Credits: 3
- GWST 4233 - Race, Gender, Ethnicity in the Media Credits: 3

- GWST 4335 - Women and Islam Credits: 3
- GWST 4360 - American Indian Women Credits: 3
- GWST 4440 - Queer Life Through Memoir Credits: 3
- GWST 4450 - Ecofeminism Credits: 3
- GWST 4500 - Topics in Gender & Women's Studies Credits: 1-4
- GWST 4540 - Gender and Crime Credits: 3
- GWST 4610 - Gender, Race & Rural Spaces Credits:
- GWST 4630 - Gender and Politics Credits: 3
- GWST 4650 - Women, Gender & Migration Credits: 3
- GWST 4675 - USWomen of Color Credits: 3
- GWST 4780 - History of Women Artists Credits: 3
- GWST 4960 - Women's Bodies, Women's Minds Credits: 3
- GWST 4965 - Senior Honors Project Credits: 3
- GWST 4970 - Internship Credits: 3
- GWST 4975 - Independent Studies Credits: 1-4

Grading & Honors

Grading Requirements

All GWST core courses and at least 15 credit hous of GWST electives must be completed with a "C" or better.

To be eligible for internships, students must have a minimum GPA of 3.300.

Honors in Gender & Women's Studies

Honors in Gender and Women's Studies recognizes academically ambitious students who have excelled in their undergraduate careers, and who are ready for graduate school and/or employment in the public or private spheres. Requirements include an overall minimum GPA of 3.500 and the completion of GWST 4965, Senior Honors Project.

Honors in GWST also requires the completion of 3 semesters of foreign language or sign language, or a concentration in quantitative analysis and research methods, including statistics.

Students in UW Honors Program, McNair Scholars Program, or other departments that require completion of an independent research project may dovetail their honors work in GWST with those programs.

Additional Information

Students in GWST are encouraged to work with a faculty advisor to develop an individualized plan of study. Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), for more information.

German, B.A.

As a German Major, you will develop your speaking, listening, and communication skills as a German speaker. You will gain a better understanding of perspectives and experiences of German speaking cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses - 9 credits

A language major requires 30 hours of credit in a single language above 2030.

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Electives - 21 credits

All electives must be above GERM 2030. At least three courses should be at the 4000-level.

- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 3990 - Independent Study Credits: 1-4
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4100 - A Survey of German Literature I Credits: 3
- GERM 4110 - A Survey of German Literature II Credits: 3
- GERM 4145 - Weimar Classicism Credits: 3
- GERM 4180 - German Poetry Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- GERM 4240 - German Literature of the Romantic Period Credits: 3

- GERM 4255 - 19th Century German Novellas Credits: 3
- GERM 4275 - Contemporary Migration Literature Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3
- GERM 4990 - Advanced Independent Study Credits: 1-3

History, B.A.

A History B.A. provides the skills needed to succeed in any job, public history, archive and museum work, law, education, business and more. Skills mastered include critical thinking, multi-perspective analysis, and written and oral communication.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

History Requirements

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements - including the language requirement - must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department of Languages - Modern and Classical. This requirement may be satisfied by American Sign Language.

Two Required Courses: 6 Hours

- HIST 3020 - Historical Methods Credits: 3

AND

- HIST 4030 - Senior Capstone Seminar Credits: 3

Elective: Any Level: 3 Hours

One additional History course at any level.

Lower-Division Electives: 12 Hours

Lower-Division courses are 1000 and 2000 level courses.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3

- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3

Upper-Division Electives: 15 Hours

Upper-Division courses are 3000 and 4000 level courses.

- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3

- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3

- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

History, Public History Concentration, B.A.

Want work in a museum, historical site, park, archive, historical consulting firm, establishing and operating archives and records management systems for private businesses, state agencies, or universities, and more? Then public history is for you.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should

check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

College of Arts and Sciences Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Public History Concentration

Combined with the History B.A. requirements (below,) students can declare a Public History Concentration. The History B.A. requires a minimum of 36 credit hours in History courses, and 18 of those can qualify to meet the Public History Concentration requirements. The Public History Concentration requires a minimum of 18 hours of History coursework that may be tailored for individual student career goals.

Specific course requirements for the Public History Concentration are as follows:

Required Courses for Public History Concentration

HIST 2050 - Introduction to Public History

HIST 2070 - Introduction to Museology

HIST 3020 - Historical Methods

HIST 4400 - Internship

Elective courses for Public History Concentration

2 of the following courses:

HIST 4055 - Archival Research Methods

HIST 4077 - Book History: Topics

HIST 4315 - History, Politics and Memory of the Holocaust in Europe

HIST 4320 - Memory and National Identity in Twentieth Century Europe

HIST 4400 - Internship (Students are allowed 2 Internship courses if approved by an advisor)

History BA Requirements

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements - including the language requirement - must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department of Languages - Modern and Classical. This requirement may be satisfied by American Sign Language.

Two Required Courses: 6 Hours

- HIST 3020 - Historical Methods Credits: 3

AND

- HIST 4030 - Senior Capstone Seminar Credits: 3

Elective: Any Level: 3 Hours

One additional History course at any level.

Lower-Division Electives: 12 Hours

Lower-Division courses are 1000 and 2000 level courses.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3
- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3

- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3

Upper-Division Electives: 15 Hours

Upper-Division courses are 3000 and 4000 level courses.

- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3

- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3
- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3

- HIST 4990 - Topics in _____ Credits: 1-6

International Studies, B.A.

Students graduating with a degree in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective. uwyo.edu/sppais.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirements

A major in International Studies requires 33 department hours. This includes with 9 hours of INST core courses, 9 upper-

division hours in an interdisciplinary "concentration," 9 hours of required "regional study" (3 lower-division and 6 upper-division), and 6 hours of upper-division electives.

International Studies majors are also required to take 15 hours in a single foreign language or achieve fourth-semester proficiency as determined by the Department of Modern and Classical Languages.

All required courses for the major must be passed with a grade of C or better. There are numerous special topics courses offered during the academic year and these courses can fulfill the international studies requirements with approval from your adviser. Students are encouraged to satisfy the USP Q (quantitative reasoning) requirement by taking STAT 2070 - Introductory Statistics for the Social Sciences or STAT2050 - Introduction to Statistics.

Core Courses

Students take 9 hours of core coursework. INST 2350 - Introduction to Global Studies and INST 2310 - Introduction to International Relations provide the theoretical framework for the Development Studies and Security Studies tracks. INST 4950 - Capstone in International Studies (Capstone) provides the culminating experience for students completing the B.A. degree in international studies and fulfills the COM3 writing requirement for the University Studies Program.

- INST 2310 - Introduction to International Relations Credits: 3
- INST 2350 - Introduction to Global Studies Credits: 3
- INST 4950 - Capstone in International Studies Credits: 3

Concentration

International Studies majors will complete a minimum of 9 hours in a chosen area of concentration, choosing either

"Development Studies" or "Security Studies".

The course offerings for each concentration are distinct, but they do in some cases overlap. Students who wish to further explore how coursework for one concentration might inform their understanding of coursework eligible for completion of the other concentration are also enabled to do this as part of their "electives". Students can also supplement eligible courses in either concentration with internationally focused courses approved by the student's advisor and the INST Program Director.

Development Studies

Development Studies focuses on theories, practices, and processes in the governance of "social" and "economic" development of communities, at multiple scales (transnational, national, subnational); relations between societies and their environments; and political-economic challenges.

For students who choose this option, 9 credits from the list below must be taken

- INST 3000 - Social Change Credits: 3
- INST 3050 - Economic Geography Credits: 3
- INST 3200 - Comparative Political Cultures Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 3910 - Global Sociology Credits: 3
- INST 4013 - Political Geography Credits: 3
- INST 4100 - Global Public Health Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4215 - European Union Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- INST 4255 - Politics of Developing Nations Credits: 3

- INST 4260 - Democratization and Regime Change Credits: 3
- INST 4340 - International Organizations Credits: 3
- INST 4350 - Culture Change Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- INST 4360 - International Peace and Conflict Credits: 3
- INST 4370 - Global Political Economy Credits: 3
- INST 4375 - Transitional Justice Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4500 - Landscapes of the Americas Credits: 3
- INST 4540 - International Marketing Credits: 3
- INST 4555 - Political Ecology Credits: 3
- INST 4560 - Global Cities Credits: 3
- INST 4570 - Cultural Geography Credits:
- ECON 4700 - Economic Development Credits: 3
- ECON 4720 - International Trade Credits: 3
- ECON 4740 - International Economics and Policy Credits: 3
- AGEC 4880 - International Agricultural Trade, Markets and Policy Credits: 3
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3
- INST 4990 - Topics: Credits: 1-6

  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Security Studies

Security Studies focuses on theory, practices, and processes in the governance of perceived insecurities, risks, and threats in social-cultural, political, and economic contexts, including around themes of human security, international relations, war and peace, intelligence, geopolitics, and geostrategy.

- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 4013 - Political Geography Credits: 3
- INST 4100 - Global Public Health Credits: 3
- INST 4175 - Gender, Women, and Health Credits: 3
- INST 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- INST 4255 - Politics of Developing Nations Credits: 3
- INST 4260 - Democratization and Regime Change Credits: 3
- INST 4280 - Comparative Criminal Justice Credits: 3
- INST 4290 - Inter-American Relations Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
- INST 4340 - International Organizations Credits: 3
- INST 4360 - International Peace and Conflict Credits: 3
- INST 4375 - Transitional Justice Credits: 3
- INST 4380 - International History of Human Rights Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4582 - 20th Century USForeign Relations Credits: 3

- POLS 4600 - Political Violence Credits: 3
- INST 4705 - Terrorism Credits: 3
- POLS 4870 - Seminar in International Relations Credits: 3
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3
- INST 4990 - Topics: Credits: 1-6

  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Regional Study Requirement

INST majors complete their "regional study" requirement as part of learning about the distinctiveness of different world regions as well as about the interconnections and interdependencies between them. Through "regional study" courses, students come to understand the global economic, political, and social-cultural processes that constitute and cut across world regions. INST majors must take one of the "gateway" options and at least two upper-division offerings, as listed below. Students can supplement the courses listed below with internationally focused courses approved by the student's advisor and the INST Program Director.

Gateway Options

International Studies majors must take 3 credits from the list of course offerings below:

- INST 1060 - World Regional Geography Credits: 3 (offered annually in Spring)
- INST 2230 - Introduction to Asian Studies Credits: 3 (COM2, offered every 2 years)
- INST 2240 - Introduction to African Studies Credits: 3 (COM2, offered every 2 years)

- INST 2250 - Introduction to Latin American Studies Credits: 3 (COM2, offered every 2 years)
- INST 2280 - Introduction to European Studies Credits: 3 (COM2, offered every 2 years)

Upper Division Options

International Studies majors must complete 6 credits of coursework from the below list of offerings:

- MUSC 3015 - Introduction to Global Music Credits: 3
- INST 3100 - Chinese Society Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- AAST 3130 - Global Impact of African Cultures Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- RELI 3250 - Tibetan Buddhism Credits:
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 3933 - African Philosophy Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- SPAN 4190 - 20th and 21st Century Spanish- American Texts Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- RELI 4270 - Buddhist Ethics Credits:
- INST 4290 - Inter-American Relations Credits: 3

- INST 4315 - History, Politics and Memory of the Holocaust in Europe Credits: 3
- INST 4330 - American Foreign Relations Credits: 3
- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4500 - Landscapes of the Americas Credits: 3
- INST 4990 - Topics: Credits: 1-6

  ("Topics" offerings vary year-to-year. Please check the INST advising catalog and consult with the Advising Center and/or the INST Program Director to know if any Topics courses are applicable for this concentration.)

Electives

Majors are required to complete 6 additional hours of upper-division coursework. This element of the major provides students with flexibility. Majors can complete this element of the major with INST "topics" courses that are not anticipated or are otherwise unlisted among the courses eligible for completing their concentration in "Development Studies" or "Security Studies," or for completing their "regional study" requirement; they can complete more credits towards their concentration than the nine they otherwise need; or they can complete more courses for the regional study requirement than they otherwise need. Students can also supplement the courses available for completion of this aspect of the major (that is, upper-division courses listed under the other requirements of the major) with internationally focused coursework across campus, or study abroad courses, with approval from the student's advisor and the INST Program Director. Some of the courses that might supplement the listed courses as part of a major's "electives" are announced in the Advising Newsletter for the major, which is distributed by the Advising Center during the registration window for each semester.

Foreign Language

All majors must complete 15 credits of the introductory sequence of foreign language courses in one language, consistent with the curriculum in the Department of Modern and Classical Languages (that is, the 1010-1020-2030-2040 sequence in one language). The same sequence (1010-1020-2030-2040) is also available in Arabic, a language program housed in the School of Politics, Public Affairs, and International Studies. Students who already are proficient in a foreign language can instead demonstrate fourth semester proficiency, as evident in a test of proficiency.

International Study Abroad and Internship Opportunities

All International Studies majors are strongly encouraged to consider taking part in a semester long study abroad program or a shorter-term faculty-led international fieldwork or study abroad course taught by UW faculty (typically offered during the Summer and Winter breaks) as a way to earn course credit towards their International Studies degree. In addition, International Studies majors are also encouraged to consider participating in paid or unpaid international internship opportunities as a way of earning additional academic credit towards their International Studies degree. For more information on international study abroad exchanges, faculty-led fieldwork courses and internship opportunities, please visit the UW Abroad Office at: uwyo.edu/geo/eda/index.

Jazz Performance, B.M.

The BM in Jazz Performance is a jazz intense professional degree intended to

prepare students for graduate school as well as a career in performing music. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Jazz Performance, B.M.: 120 Credits

Music Core: 56 Credits

- Students must complete at least one ensemble per semester enrolled, total 8.
- MUSC 0200 - Music Convocation Credits: 0

Students must complete 8 semesters of Convocation, 1 each semester they are in residence.

- MUSC 1290 - Class Piano I Credits: 1
- MUSC 1295 - Class Piano II Credits: 1
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 4070 - Conducting Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- One hour of Applied Lessons on the students major instrument must be taken every semester starting at the 2000 level.

MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16

Instrumental Emphasis: 2 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2

Jazz Core Requirements: 11 Credits

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2

Upper Division Music Electives: 9 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4990 - Topics in: Credits: 1-12

- MUSC 5035 - Advanced Theory Credits: 3

General Electives: 6 Credits

Journalism, B.A.

The journalism major is designed to prepare students for careers as reporters, editors and writers with newspapers, news services, magazines, public information, public relations, advertising, and many other fields. Journalism major Degree Requirements:

This degree requires 120 credits, 24 of which are upper-division credits required for the journalism major.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

- Departmental Core Courses Credits: 30
- COJO 3480 - Internship Credits: 1-12 (3)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- Elective Credits: 15 (At least 9 hours must be from the list of journalism courses.)Three hours need to be upper division in COJO. The other three hours can be upper or lower division in COJO/COMM.

Departmental Core Courses

In addition to the university studies requirements listed in this catalog, all students majoring in communication and journalism must take the following required courses:

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COJO 3070 - Communication Research Credits: 3
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4 (4)
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4 (4)

College of Arts and Sciences Requirements

- A&S U.S. Diversity (ASD) Credits: 3
- A&S Global Awareness (ASG) Credits: 3

Additional Program Requirements

- Human Culture Credits: 6 (H)

Music Education, B.M.

The **BM in Music Education** is a professional degree intended to prepare students for careers as K-12 music educators. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should

check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Music Education: B.M.

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Music Core: 43 Credits

- Students must complete at least one ensemble per semester enrolled, total 7.
- MUSC 0200 - Music Convocation Credits: 0
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1

- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2390 - Piano Literacy Exam Credits: 0
- Students who are Brass, Woodwind, and Percussion Emphasis may fulfill this requierment by passing Class Piano 1 and 2 with a B or higher.

OR

- MUSC 2395 - Piano Proficiency Credits: 0
- Required for all Vocal and String emphasis students. Class Piano 1-4 is recommended to prepare for this exam.
- MUSC 4070 - Conducting Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- MUSC 4155 - Senior Music Education Recital Credits: 0
- Applied lessons are required each semester of residency:

MUSC 2*** Applied Lessons II: 2 Credits **Credits / Units:** 8
MUSC 3*** Applied Lessons III: 2 Credits **Credits / Units:** 8
MUSC 4*** Applied Lessons IV: 2 Credits **Credits / Units:** 8
MUSC 5*** Applied Lessons V: 2Credits **Credits / Units:** 8

Music Education Core: 13 Credits

Prerequisite: MUSC 1040 & 1045

- MUSC 1025 - Introduction to Music Education Credits: 2
- MUSC 1312 - Public School Tech: Brass Credits: 2
- MUSC 1322 - Public School Tech: Percussion Credits: 2
- MUSC 1332 - Public School Tech: Strings Credits: 2
- MUSC 1340 - Public School Methods: Voice I Credits: 1
- MUSC 1352 - Public School Tech: Woodwinds Credits: 2

- MUSC 1360 - Public School Methods: Guitar Credits: 1
- MUSC 3265 - Music Education Proficiency Review Credits: 0
- MUSC 4620 - Practicum in Music Education Credits: 1

Emphasis: Choose One, 4-5 credits

String Emphasis: 4 credits

- String majors must take lessons on a secondary string instrument. 2 credits **Credits / Units:** 2
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

Vocal Emphasis: 4 credits

- MUSC 2320 - Diction for Singers I Credits: 2
- MUSC 4620 - Practicum in Music Education Credits: 1

Brass, Woodwind, and Percussion Emphasis: 5 credits

- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2

Professional Education Requirements: 33 Credits

- EDST 2450 - Foundations of Development and Learning Credits: 3
- EDEX 2484 - Introduction to Special Education Credits: 3
- MUSC 4460 - Choral Music Methods Credits: 3
- MUSC 4465 - Instrumental Music Methods Credits: 3

- MUSC 4705 - Elementary Music Ed Practicum Credits: 1
- MUSC 4715 - Secondary Music Ed Practicum Credits: 1
- MUSC 4700 - Elementary Student Teaching in Music Credits: 8
- MUSC 4710 - Secondary Student Teaching in Music Credits: 8

Music Performance, B.M.

The **BM in Performance** is a professional degree intended to prepare students for graduate school as well as a career in performing music. Acceptance to the program is by audition only.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

B.M. Performance, Vocal Emphasis: 120 Total Hours

Music Core: 54 Credits

- Ensembles: 1 per semester, minimum 8 **Credits / Units:** 8
- MUSC 0200 - Music Convocation Credits: 0

- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- Applied lessons are required each semester of residency:

  MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
  MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
  MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
  MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16

- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Vocal Emphasis: 6 Credits

- MUSC 2320 - Diction for Singers I Credits: 2
- MUSC 2325 - Diction for Singers II Credits: 2
- MUSC 4635 - Vocal Pedagogy Credits: 2

Upper Division Music Electives: 16 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4040 - Composition Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, Keyboard Emphasis: 120 Hours Total

Music Core: 56 Hours

- MUSC 0200 - Music Convocation Credits: 0
- Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
    - Applied lessons are required each semester of residency: **Credits / Units:** 16
      MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
      MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
      MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
      MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 4070 - Conducting Credits: 3
- MUSC 4040 - Composition Credits: 2

- MUSC 1280 - Collaborative Piano I Credits: 1-2
- Ensembles: MUSC 1280 is intended for freshman and sophomores; MUSC 3280 is intended for juniors and seniors. You must be registered for a minimum of one ensemble per semester.

Credits / Units: 8

- MUSC 3280 - Collaborative Piano II Credits: 1-2
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Keyboard Emphasis: 5 Credits

- MUSC 4625 - Piano Pedagogy Credits: 2
- MUSC 4650 - Keyboard Literature Credits: 3

Upper Division Music Electives: 17 Hours

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1

- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, String Emphasis: 120 Total Hours

Music Core: 56 Credits

- Ensembles: 1 per semester, minimum 8 **Credits / Units:** 8
- MUSC 0200 - Music Convocation Credits: 0
- Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2395 - Piano Proficiency Credits: 0
- Class Piano 1-4 is highly recommended for students with little or no piano experience. All music majors must pass a piano proficiency test during their sophomore year (MUSC 2395). If a student opts not to take Class Piano, then four (4)

hours of elective credits must be taken to ensure 120 hours for graduation.

- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0

Applied lessons are required each semester of residency: **Credits / Units:** 16

MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16

MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16

MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16

MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16

- MUSC 4040 - Composition Credits: 2
- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

String Emphasis: 4 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2
- MUSC 4651 - String Solo Literature Credits: 3

Upper Division Music Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2

- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

B.M. Performance, Winds & Percussion Emphasis: 120 Total Hours

Music Core: 58 Credits

- Ensembles: 1 per semester, minimum 8 **Credits / Units:** 8
- MUSC 0200 - Music Convocation Credits: 0

  Students must be enrolled in Convocation every semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 2040 - Written Theory IV Credits: 3
- MUSC 2045 - Aural Theory IV Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0

- Applied lessons are required each semester of residency: **Credits / Units:** 16
  MUSC 2*** Applied Lessons II: 4 Credits **Credits / Units:** 16
  MUSC 3*** Applied Lessons III: 4 Credits **Credits / Units:** 16
  MUSC 4*** Applied Lessons IV: 4 Credits **Credits / Units:** 16
  MUSC 5*** Applied Lessons V: 4 Credits **Credits / Units:** 16
- MUSC 1290 - Class Piano I Credits: 1

  AND
- MUSC 1295 - Class Piano II Credits: 1

  OR
- MUSC 2390 - Piano Literacy Exam Credits: 0 All Performance majors with a Wind and Percussion Emphaisis must pass the Piano Literacy Exam (MUSC 2390) during their sophomore year OR pass Class Piano 1 & 2 with a B or better. If a student opts not to take Class Piano, then two (2) hours of elective credits must be taken to ensure 120 hours for graduation.
- MUSC 4040 - Composition Credits: 2
- MUSC 4070 - Conducting Credits: 3
- MUSC 3500 - Junior Recital Credits: 0
- MUSC 4590 - Senior Recital Credits: 2

Instrumental Emphasis: 2 Credits

- MUSC 4615 - Instrumental Pedagogy Credits: 2

Upper Division Music Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2

- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3

Music, B.A.

The **BA in Music** is a broad liberal arts degree with a 58-credit core music curriculum. Majors have the freedom to explore the potential for future careers in the music and arts industry such as arts management, entrepreneurship, and audio technology.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Music Core: 40 Credits

- Students must complete at least one ensemble per semester enrolled, total 8.
- MUSC 0200 - Music Convocation Credits: 0
- All music majors must enroll in and successfully complete Convocation each semester they are enrolled, maximum of 8.
- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 2030 - Written Theory III Credits: 3
- MUSC 2035 - Aural Theory III Credits: 1
- MUSC 1003 - Historical Perspectives in Music I Credits: 3
- MUSC 2050 - Historical Perspectives in Music II Credits: 3
- MUSC 2055 - Historical Perspectives III Credits: 3
- MUSC 2390 - Piano Literacy Exam Credits: 0
- The Piano Literacy Exam must be completed by the end of Sophomore year. It may be substituted by passing Class Piano 1 and 2 with a B or higher.
- MUSC 3255 - Sophomore Qualifying Performance Jury Credits: 0
- Students must be enrolled in instrument specific lessons every semester they are enrolled. They must complete the following:

    MUSC 2*** Applied Lessons II, 2 credits **Credits / Units:** 8

    MUSC 3*** Applied Lessoons III, 2 Credits **Credits / Units:** 8

    MUSC 4*** Applied Lessons IV, 2 Credits **Credits / Units:** 8

MUSC 5*** Applied Lessons V, 2 Credits **Credits / Units:** 8

Upper Division Electives: 18 Credits

- MUSC 3015 - Introduction to Global Music Credits: 3

- MUSC 3025 - Fundamentals of Jazz Improvisation Credits: 2
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4020 - Advanced Jazz Improvisation Credits: 2
- MUSC 4025 - Jazz Composition and Arranging Credits: 2
- MUSC 4040 - Composition Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4380 - Jazz Techniques Credits: 2
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 4590 - Senior Recital Credits: 2
- MUSC 4650 - Keyboard Literature Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4750 - Marching Band Techniques Credits: 1
- MUSC 4780 - Instrumental Conducting and Repertory Credits: 2
- MUSC 4790 - Choral Conducting and Repertory Credits: 2
- MUSC 4990 - Topics in: Credits: 1-12

- MUSC 5035 - Advanced Theory Credits: 3

A&S Core

A&S Diversity - 3 Credits

A&S Global - 3 Credits

Native American and Indigenous Studies, B.A.

The curriculum for the 30-hour Bachelor of Arts degree in Native American and Indigenous Studies will encourage students to understand and appreciate the roles of history, culture, and politics in the development of tribal world views.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The College of Arts and Sciences requires:

- D - Diversity (3 credits)
- G - Global (3 credits)

Major Requirements

Foundation Courses

Foundation Classes 9 Hours Required. Choose from the following:

- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- NAIS 2210 - North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3

NAIS & Crosslisted Courses

Choose seven (7), for a total of 21 credit hours, courses from the following:

- NAIS 1010 - Beginning Indigenous Language Credits: 4
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 2010 - Intermediate Indigenous Language Credits: 4
- NAIS 2060 - Topics Credits: 1-4
- NAIS 2340 - Native American Culture and Literature Credits: 3
- NAIS 2345 - American Indians in Hollywood Film Credits: 3
- NAIS 3000 - Plains Culture and History Credits: 3
- NAIS 3010 - Proficient Indigenous Language Credits: 4
- NAIS 3100 - Tribal Literatures of the Great Plains Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 4000 - Indians of Wyoming Credits: 3
- NAIS 4010 - Advanced Indigenous Language Credits: 4
- NAIS 4020 - Internship Credits: 1-12
- NAIS 4100 - Tribal Government Credits: 3

- NAIS 4110 - Educational Foundations in American Indian Education Credits: 3
- NAIS 4200 - Indigenous Communities Abroad: International Travel Credits: 4
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- NAIS 4460 - American Indian Literature Credits: 3
- NAIS 4466 - American Indian Ethnohistory Credits: 3
- NAIS 4740 - Native American Languages and Cultures Credits: 3
- NAIS 4975 - Independent Study Credits: 1-4
- NAIS 4990 - Special Topics Credits: 1-4

Additional Requirements

Grade Requirements

NAIS classes applied to NAIS degrees must be passed with a grade of C or better. This policy applies to NAIS classes completed fall semester 2012 and beyond.

Additional Information

Cross-Listing & NAIS Courses

In order to provide a broader range of relevant and enriching courses, in any given year, the program in Native American and Indigenous Studies offers topics courses (NAIS 2060 or NAIS 4990) that are frequently cross-listed with other majors and departments. Any such courses may be counted towards a student's 21 hours of required courses beyond the foundational courses.

If a student chooses to take more than one topics course in the same semester, it may require an override within the registration system. If you seek to enroll in a topics course and have trouble doing so, please contact scgsj@uwyo.edu.

Declaring a NAIS Major/Minor

Please complete and submit the "Change of Advisor, Major, Minor, Option/Concentration, College, and or Graduate Status" form available on the Office of the Registrar's website.

Philosophy, B.A.

Philosophy provides the critical thinking, logical reasoning, and innovative problem-solving skills necessary to be competitive in law, business, academia, tech, arts, and government. It also explores what it is to live a meaningful life outside a career.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

Additional Requirements

- A major in Philosophy requires a minimum of 33 hours (11 courses) of philosophy.
- At least 6 hours (2 courses) must be at the 4000-level.
- At least an additional 18 hours (6 courses) must be at or above the 3000-level.
- The remaining 9 hours (3 courses) may be at any level.
- The department recommends that students begin with a 1000-level Intro course or a FYS followed by one or two other courses at the 1000 or 2000-level but it is not required that a student follow this recommendation.
- Only those courses in which a grade of C or better has been earned may count toward the 33-hour requirement.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses

required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

1000 -2000-level courses

Nine hours (3 courses) may be at any level.

- PHIL 1000 - Introduction to Philosophy Credits: 3
- PHIL 1101 - First-Year Seminar Credits: 3
- PHIL 2100 - The Greek Mind Credits: 3
- PHIL 2300 - Ethics in Practice Credits: 1-3
- PHIL 2310 - Philosophy of Religion Credits: 3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3

3000-level courses

At least 18 hours (6 courses) must be at or above the 3000-level.

- PHIL 3000 - Special Topics Credits: 3

- PHIL 3100 - History of Modern Philosophy: The Rationalists Credits: 3
- PHIL 3110 - History of Modern Philosophy: The Empiricists Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3160 - "What Killed Socrates?" Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 3340 - Philosophy in Literature Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- PHIL 3500 - History of Science Credits: 3
- PHIL 3933 - African Philosophy Credits: 3

4000-level-courses

At least 6 hours (2 courses) must be at the 4000-level.

- PHIL 4000 - Philosophical Issues Credits: 1-3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3
- PHIL 4040 - Kant Credits: 3
- PHIL 4110 - Figures in Contemporary Philosophy Credits: 3-6
- PHIL 4120 - Philosophy and the 20th Century Credits: 3
- PHIL 4130 - Figures in Modern and 19th Century Philosophy Credits: 3
- PHIL 4140 - Topics in Philosophy of Science Credits: 3
- PHIL 4190 - Philosophy of Language Credits: 3-6
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

- PHIL 4420 - Advanced Logic Credits: 3
- PHIL 4440 - Topics in Philosophy of the Mind Credits: 3-6
- PHIL 4510 - Theory of Knowledge Credits: 3
- PHIL 4560 - Metaphysics Credits: 3
- PHIL 4975 - Independent Study Credits: 1

Political Science B.A.

Political Science is the study of how societies govern themselves and interact with one another. The Political Science major offers the subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements:

A major in political science requires 33 department hours, 9 of which are upper-division credits.

A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students are also required to take

- at least one seminar in political science (and its prerequisites)
- 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages
- STAT2070 - Introductory Statistics for the Social Sciences Credits: 4
- OR

- STAT2050 - Fundamentals of Statistics Credits: 4
- minimum of 9 hours of upper division credit in political science.

Core Courses

Political Science majors must take 12 credits from the following list of course offerings.

- POLS 1000 - American and Wyoming Government Credits: 3
- POLS 1200 - Non-Western Political Cultures Credits: 3

Or

- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 2460 - Introduction to Political Philosophy Credits: 3

Or

- POLS 3600 - American Political Thought Credits: 3

Electives

Students are required to take 18 hours of elective credits, 9 of which must be upper-division credits.

Electives may be selected from any field within Political Science to reflect the student's particular interests.

- POLS 1200 - Non-Western Political Cultures Credits: 3
- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2000 - Current Issues in American Government Credits: 3
- POLS 2070 - Politics of State and Local Government Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 2330 - Environmental Ethics Credits: 3
- POLS 2410 - Introduction to Public Administration Credits: 3
- POLS 2430 - Parties, Interest Groups and Elections Credits: 3
- POLS 2450 - Politics and Media Credits: 3
- POLS 2460 - Introduction to Political Philosophy Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (max 6)
- POLS 3050 - Athenian Democracy Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3200 - Comparative Political Cultures Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3

- POLS 3300 - Model United Nations Credits: 1-3 (max 6)
- POLS 3520 - Voting and Participation in America Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 3610 - Classics in Environmental Thought Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- POLS 3680 - Introduction to Empirical Political Analysis Credits: 3
- POLS 4013 - Political Geography Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4260 - Democratization and Regime Change Credits: 3
- POLS 4290 - Inter-American Relations Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4340 - International Organizations Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4375 - Transitional Justice Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3

- POLS 4420 - Seminar in Public Administration Credits: 3 (max 6)
- POLS 4430 - United States Presidency Credits: 3
- POLS 4435 - Presidential Elections Credits: 3
- POLS 4445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 4455 - Energy Security Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4520 - Public Opinion Credits: 3
- POLS 4530 - U.S. Congress Credits: 3
- POLS 4550 - Internship in Government Credits: 1-6 *
- POLS 4560 - Washington Semester Program Credits: 15 *
- POLS 4600 - Political Violence Credits: 3
- POLS 4640 - Political Philosophy: Ancient and Medieval Credits: 3
- POLS 4650 - Political Philosophy: Modern Credits: 3
- POLS 4660 - Political Philosophy: Contemporary Credits: 3
- POLS 4685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 4700 - Readings in Political Science Credits: 1-3 (max 6)
- POLS 4705 - Terrorism Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (max 9)
- POLS 4720 - Workshop in Practical Politics Credits: 1-3 (max 6)
- POLS 4810 - Seminar in Political Philosophy Credits: 3 (max 6)
- POLS 4840 - Seminar in Public Law Credits: 3 (max 6)
- POLS 4850 - Seminar in American Politics and Institutions Credits: 3 (max 6)
- POLS 4870 - Seminar in International Relations Credits: 3 (max 6)
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3 (max 6)

*Maximum of 6 hours of internship credit can be applied to

the 33 hours required for the major.

Political Science, B.A./M.A.

The Political Science 5 Year B.A./M.A. Program offers highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor's degree (whether B.A. or B.S.) and thereby earn a graduate degree more efficiently. Political science majors with a cumulative major GPA of 3.5 or higher may be invited to apply at the outset of the second semester of the junior year.

Interested students will submit an application and 2 letters of recommendation, at least one from a political science faculty to be reviewed, along with unofficial, current UW transcripts, by the M.A. Director and Committee. Upon provisional acceptance into the program in the junior year, students will be required to take the GRE. GRE scores will be considered for full and final acceptance to the M.A. program, which will be made once the student has completed the bachelor's degree.

Provisional acceptance to the 5 Year B.A./M.A. program in Political Science will allow students to apply up to six credit hours of 5000-level courses toward both the B.A./B.S. and M.A. degree programs. To earn graduate level credit, students must achieve at least a 3.000 in the course. By successfully completing up to six credit hours of graduate coursework during their senior year, these students will have demonstrated their ability to do graduate level coursework as undergraduates, easing their transition into the Master's Program in Political Science. Interested students may reserve up to six additional credits for graduate study that do not apply to the undergraduate degree by securing appropriate approvals as explained in the Registrar's "Request to Reserve Coursework for Graduate Credit" prior to taking the coursework.

Students will be granted the BA/BS upon completion of the credit hours required for the undergraduate degree in political science. Students must complete the BA/BS before formally entering the MA program. To remain in good standing in the program, students must maintain a cumulative and departmental GPA of 3.200 and earn at least a 3.000 in all 5000-level courses. Failure to meet the GPA requirements places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be suspended from the program. Students in the program are encouraged to take the Plan B option. Please see the Graduate Study section to find the degree requirements of the M.A. in Political Science.

Political Science, B.S.

Political Science studies how states govern themselves and interact. Subfields include: American politics, comparative government, international relations, political philosophy, public law, and public administration with an emphasis on statistical analysis and quantitative methods.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours.

A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students are also required to take

- at least one seminar in political science (and its prerequisites)
- 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4
- minimum of 9 hours of upper division credit in political science.

Introductory Courses

Students are required to complete the following four introductory courses:

- POLS 1000 - American and Wyoming Government Credits: 3

- POLS 1200 - Non-Western Political Cultures Credits: 3

OR

- POLS 1250 - Introduction to Comparative Government Credits: 3

- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 2460 - Introduction to Political Philosophy Credits: 3

OR

- POLS 3600 - American Political Thought Credits: 3

Psychology, B.S.

Learn empirical approaches to understanding human behavior from biological, clinical, cognitive, developmental, neuroscientific, and social psychological perspectives. Develop skills in critical thinking, communication, and scientific research.

Degree Requirements

B.S. (120 Hours) Grade of C or better required in all major coursework.33 total hours in Psychology (Maximum 60) - 18 hours at the 3000 level or higher

Learning Outcomes

Core Outcome 1: Develop and demonstrate competency in research methods and statistical analysis

Core Outcome 2: Demonstrate basic scientific competence, critical thinking, and problem solving skills

Core outcome 3: Apply knowledge of psychology in the community while

intergrating cultural considerations, diversity, equity, and inclusion

Core outcome 4: Acquire broad knowledge across subfields within psychology

Core outcome 5: Understand and demonstrate professional and ethical knowlege and responsibility

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

D - Diversity 3 credits
G - Global 3 Credits

Students Must Complete the Following Courses:

- PSYC 1000 - General Psychology Credits: 3

- PSYC 2000 - Research Psychological Methods Credits: 4

Four of Five Cores:

Biological Core

- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- PSYC 2080 - Biological Psychology Credits: 3

Social Psychology Core

- PSYC 2380 - Social Psychology Credits: 3

Clinical Core

- PSYC 2340 - Psychopathology Credits: 3

Cognitive Core

- PSYC 3120 - Cognitive Psychology Credits: 3

Developmental Core

- PSYC 2300 - Psychology of Child Development Credits: 3

One of the Following

Additionally **one** of the following restricted enrollment (seminar or writing intensive) courses is required:

- PSYC 4150 - Cognitive Development Credits: 3
- PSYC 4250 - Psychological Aspects of Chronic Illness Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3
- PSYC 4350 - Psychology of Adulthood Credits: 3

- PSYC 4380 - Death and Dying Credits: 3
- PSYC 4390 - Personality Science Credits: 3
- PSYC 4400 - Principles of Psychological Testing Credits: 3
- PSYC 4740 - Advanced Social Psychology Credits: 3
- PSYC 4860 - Seminar Credits: 1-6
- PSYC 4040 - Cognitive Neuroscience Credits: 4

A total of 18 hours at the 3000 level or higer are required

Also Required

Also required are

- 6 hours of anthropology, communication/journalism, criminal justice, economics, political science, or sociology;
- LIFE 1003 - Current Issues in Biology Credits: 4

OR

- LIFE 1010 - General Biology Credits: 4

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

STEM Course

One approved 3-4 credit hour STEM course:

- CHEM 1000 - Introductory Chemistry Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1100 - Computer Science Principles and Practice Credits: 3
- ESS 4001 - Analysis of Nature's Data Credits: 3

- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- ZOO 2040
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 2041
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MICR 2021 - General Microbiology Credits: 4
- MICR 4001 - Epidemiology (Diseases in Population) Credits: 3
- MOLB 2021 - General Microbiology Credits: 4
- PHYS 1050 - Concepts of Physics Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2000 - Statistics and the World Credits: 3
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- ZOO 3600 - Principles of Animal Behavior Credits: 3
- ZOO 4110 - HIV/AIDS: The Disease and the Dilemma Credits: 3

Additional Requirements

A major requires a minimum of 33 semester hours and may not exceed 60 hours in psychology. Of these, 18 hours must be at the 3000 level or above. These upper-division courses must also be taken from at least two different members of the psychology department faculty listed in this *Catalog*.

Students who have an established UW GPA and who wish to change their major to Psychology, or to add Psychology as a major, will be required to have a UW GPA of at least 2.500.

For graduation, students must receive a C or better grade in all courses taken to satisfy department requirements.

Psychology courses taken 15 or more years ago will not be used to satisfy degree requirements.

Religious Studies, B.A.

Religious Studies builds skills for your future in a globalized world. You will learn to ask life's big questions, analyze how communities across time and place have addressed these questions, and communicate persuasively in your own speech and writing.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

General Requirements

A major in Religious Studies requires 33 hours (11 courses).

For students completing their degree under the 2015 University Studies Program:

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Two Required Courses: 6 Hours

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 4000 - Theories of Religion Credits: 3

1000-2000 level Courses

Nine hours (3 courses) may be at any level.

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 1101 - First-Year Seminar Credits: 3
- RELI 2030 - Violence and Resistance Credits:
- RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam Credits: 3
- RELI 2050 - Religions of Asia Credits: 3
- RELI 2070 - Gender and Religion Credits: 3
- RELI 2080 - Holocaust Credits: 3
- RELI 2110 - Introduction to the Old Testament Credits: 3
- RELI 2150 - New Testament Survey Credits: 3
- RELI 2175 - The Life and Teaching of Jesus Credits: 3
- RELI 2200 - Contemporary American Religion Credits: 3
- RELI 2225 - History of Christianity Credits: 3
- RELI 2250 - American Religious History I (To 1865) Credits: 3

- RELI 2252 - American Religious History II (1865- 1945) Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- RELI 2320 - History of Islam Credits: 3
- RELI 2330 - Islam in the Modern World Credits: 3
- RELI 2410 - Varieties of Non-Belief in the Western World Credits: 3
- RELI 2450 - Traditional African Religion Credits: 3
- RELI 2490 - Special Topics in Religion Credits: 1-3
- RELI 2335 - Buddhism Credits:

3000-4000 Level Courses

At least 18 hours (6 courses) must be at or above the 3000-level.

- RELI 3090 - Middle East and Israel in Film Credits: 3
- RELI 3110 - Bible and Archaeology Credits: 3
- RELI 3200 - Religion and American Culture Credits: 3
- RELI 3220 - History of the Modern Middle East Credits: 3
- RELI 3225 - Apocalypse: The History of the End Credits: 3
- RELI 3230 - Early Christianity Credits: 3
- RELI 3235 - Medieval Christianity Credits: 3
- RELI 3240 - Reformation and Enlightenment Christianity Credits: 3
- RELI 3245 - Christianity Since Darwin Credits: 3
- RELI 3250 - Tibetan Buddhism Credits:
- RELI 3260 - African Spirits in the New World Credits: 3
- RELI 3320 - Eastern Thought Credits: 3
- RELI 3340 - Mysticism, Yoga, and Enlightenment in the East Credits: 3
- RELI 3350 - Religion and Globalization in India Credits: 3
- RELI 3400 - Religion in the American West Credits: 3

- RELI 4000 - Theories of Religion Credits: 3
- RELI 4090 - Film and Religion Credits: 3
- RELI 4100 - African American Religious Culture Credits: 3
- RELI 4113 - Medieval Religious Dissent Credits: 3
- RELI 4160 - Moses, Jesus, and Muhammad Credits: 3
- RELI 4174 - Judaism from Ezra to Jesus Credits: 3
- RELI 4175 - Judaism at the Dawn of Christianity Credits: 3
- RELI 4190 - Women and the Bible Credits: 3
- RELI 4260 - Judaism in the Modern World Credits: 3
- RELI 4270 - Buddhist Ethics Credits:
- RELI 4310 - Seminar in Asian Religions Credits: 3
- RELI 4335 - Women and Islam Credits: 3
- RELI 4500 - Special Topics in Religious Studies Credits: 1-3
- RELI 4635 - Religious Studies Departmental Honors Credits: 0
- RELI 4900 - Independent Study in Religion Credits: 1-3
- RELI 4930 - Thesis Credits: 0-6
- RELI 4960 - International Field Course Credits: 1-6
- RELI 4961 - Domestic Field Course Credits: 1-6

Language

Students should take three semesters of a single foreign language or demonstrate equivalent proficiency. See note 3 below.

Honors

If a student wishes to pursue an Honors designation in Religious Studies, two additional requirements must be fulfilled.

- A three-hour Thesis Seminar or Internship, during which a research paper is written, or other suitable research project is carried out.

- Demonstration of competency in a foreign language equivalent to a fourth-semester college-level course.

Notes:

- If students majoring in Religious Studies can use its courses to satisfy requirements in a second major or minor, this is permitted.
- Courses for the major should be drawn from those with a RELI prefix, or from a list of approved courses taught by other departments or programs. See the list of approved courses on the Religious Studies website. Occasionally, courses on religion are taught by outside departments as one-time opportunities. Students may propose these for inclusion in the major to the Religious Studies Program Director.
- The language requirement may be satisfied with American Sign Language (ASL) or, with the approval of the department, coursework in another form of non- English communication (e.g. computer science, statistics, music composition).
- All courses must be passed with a grade of C or better.

Sociology, B.A.

Sociology is the study of the development, interaction, and behavior of organized human groups. Sociology provides powerful insights into the social processes that shape our lives, the problems we face, and the possibilities we can envision.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP

requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Arts & Sciences College Core

- D - - Diversity Credits: 3
- G - - Global Awareness Credits: 3

Foundation Courses

Students must complete all Foundation Courses with a grade of C or better.

- SOC 1000 - Sociological Principles Credits: 3
- SOC 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4
- SOC 2465 - Research Methods Credits: 3
- SOC 4715 - Sociological Theory Credits: 3

Core Courses:

Students must complete four courses from the following list with a grade of C or better.

- SOC 2350 - Race and Ethnic Relations Credits: 3
- SOC 3110 - Self and Society Credits: 3
- SOC 3140 - Sociology of the Family Credits: 3
- SOC 3200 - Sociology of Religion Credits: 3
- SOC 3400 - Deviant Behavior Credits: 3
- SOC 3500 - Sociology of Gender Credits:
- SOC 3550 - Medical Sociology Credits: 3
- SOC 3605 - Sociology of Education Credits: 3
- SOC 3640 - Social Inequality Credits: 3
- SOC 3880 - Political Sociology Credits: 3
- SOC 3910 - Global Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3

Elective Courses

Students must complete 9 additional hours of sociology courses with a grade of C or better. Electives may be used either to develop additional expertise in an area of interest or to broaden the student's sociological training.

Spanish B.A.: Language-Linguistics Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3

- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3

OR

- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- additional 12 hours of electives above SPAN 2030.

Highly Recommended Electives

- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

It is Possible to Take

It is possible to take one class from the following:

- SPPA 3160 - Speech and Language Development Credits: 4
- ANTH 4775 - Language and Gender **Credits / Units:** 3
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3

Total: 31 Hours

Spanish, B.A.

As a Spanish Major, you will develop your speaking, listening, and communication skills as a Spanish speaker. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Tracks

The undergraduate degree in Spanish has two tracks for students to select: Culture, Literature, and Cinema Track or Language-Linguistics Track.

There are multiple entry points into the major depending on previous Spanish language experience. Students should consult a Modern and Classical Languages advisor about the appropriate placement and credit-by-exam options.

A language major usually requires 30-31 semester hours of work in a single language beyond 2030. To include a language option

in the humanities/fine arts interdisciplinary program, students must complete at least 12 hours above the 2030 level.

Spanish offers two major tracks:

Spanish B.A. : Culture, Literature, and Cinema Track

Spanish B.A. : Language-Linguistics Track

Prerequisites for both Spanish Tracks

- SPAN 1010 - First Year Spanish I Credits: 4
- SPAN 1020 - First Year Spanish II Credits: 4
- SPAN 2030 - Second Year Spanish I Credits: 4

Language and Linguistics Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3

OR

- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- **PLUS** 12 hours of electives from the following:

- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

It is possible to take one class from the following:

- SPPA 3160 - Speech and Language Development Credits: 4
- ANTH 4785 - Race and Language Credits: 3
- ANTH 4795 - Language Change Credits: 3

Culture, Literature, and Cinema Track

Requirements

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 2140 - Introduction to Reading Credits: 3
- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3
- SPAN 3100 - Survey of Spanish Literature Credits: 3

OR

- SPAN 3110 - Survey of Contemporary Spanish Literature Credits: 3

OR

- SPAN 3120 - Survey of Spanish American Literature Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3
- **PLUS** 12 hours of electives from the following:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3

- SPAN 3220 - Spanish-American Cultures in Context Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Studio Art, B.A.

The BA in Studio Art degree prepares students for further studies or careers in the studio arts and arts-related fields including art therapy, illustration, arts administration, design, and art education.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BA in Studio Art** requires the **A&S Core**:

- **D -** Diversity (3 credits)
- **G -** Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Minimum Course Requirements for Art Majors

In addition to the university and college requirements listed above and in this Catalog, all students majoring in art must complete the following:

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1115 - Digital Media Credits: 1
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 2000 - Portfolio Review Credits: 1
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Studio Core (Minimum): 12 Hours

12 credits chosen from the below. At least one course must be from 2D and one from 3D.

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2255 - Introduction to Photography, Digital Credits: 3

OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3
- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Upper Division Studio Electives: 12 Hours

12 credits of any upper division studio art classes

Foreign Language: 8 Hours

8 Hours of any Foreign Langage:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Art History Electives: 6 Hours

6 credits beyond ART 2010 and ART 2020, with at least 3 units at upper division level

Additional Requirements

B.A. IN STUDIO ART DEGREE

The B.A. in Studio Art degree is available to students who are preparing for further studies or careers in the arts and arts-related fields, such as art education, graphic design, art therapy, illustration, botanical illustration, and forensic illustration. Students work with their academic advisers to select courses from the USP and elective offerings to complement art studies in their areas of interest. Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. In addition to the university requirement that degree candidates hold a minimum cumulative grade point average of 2.000, degree candidates for the B.A. in Studio Art degree in the Department of Visual Arts also must have a minimum 2.500 overall cumulative grade point average and a 2.500 grade point average within all major courses at the time of graduation.

Transfer Residency. A minimum of 26 hours of upper-division course work in the major is required to establish residency in the department for all transfer students. This applies to students in the B.F.A., B.A., and Art Education degree programs who transfer in 12 or more hours of art courses for the major. Students in all art programs must meet the university requirement of at least 42 hours of course work at the upper-division level (3000 and above).

Based on their goals and career plans, students in consultation with a faculty adviser select the appropriate degree plan. Students major in studio art with areas of study in one or more of the following:

- Drawing
- Painting
- Photography
- Printmaking
- Ceramics
- Sculpture
- Metalsmithing
- Visual Communication Design

Studio Art, B.F.A.

The BFA in Studio Art is a professional degree open to outstanding students through an application process who are preparing for art studies, careers and professional activity in the studio arts.

Degree Requirements

This degree requires 122 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BFA in Studio Art** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 2000 - Portfolio Review Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

> *12 credits chosen from the below. At least one core course must be from 2D and one from 3D.*

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3
  OR
- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History Core: 6 Hours

- ART 2010 - Art History I Credits: 3
  required
- ART 2020 - Art History II Credits: 3
  required

Upper Division Studio Electives: 21 Hours

21 credits of any upper division studio art classes

Art and Art History Electives: 3 Hours

3 credits of any art or art history course at any level

BFA Core: 12 Hours

- ART 4010 - Contemporary Art: Theory/Practice Credits: 3
  required
- ART 4600 - Professional Practices and Strategies Credits: 3
  required
- ART 4800 - BFA Capstone I Credits: 3
  required, offered only fall semester
- ART 4840 - BFA Capstone II Credits: 3
  required, offered only spring semester

Upper Division Art History Electives: 9 Hours

9 credits of any upper division art history classes

Foreign Language: 8 Hours

8 hours in any Foreign Language:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Additional Requirements

B.F.A. IN STUDIO ART DEGREE

The B.F.A. in Studio Art is a professional level degree open to outstanding students through an application process who are preparing for art studies, careers and professional activity in the studio arts beyond the undergraduate level. The B.F.A. in Studio Art degree requires a minimum of 120 hours of credits with up to seventy-eight (78) semester hours focused in studio and art history course work. All B.F.A. in Studio Art students are required to participate in the B.F.A. exhibition upon graduation. As a Professional Degree, the B.F.A. in Studio Art does not include the A&S Outside Major credit requirement.

Application
Formal application is made to the program for acceptance into the B.F.A. in Studio Art degree program. Application must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty review of the application materials are required before a student is declared a candidate for the B.F.A. in Studio Art degree. Applicants must have achieved the following at the time of application to the B.F.A. in Studio Art:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA
- Successful completion of ART 2000: Portfolio Review

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Studio Art candidate. Students should apply at least three semesters before graduation. Application does not automatically guarantee acceptance into the B.F.A. in Studio Art program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual and Literary Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Studio Art after one semester in the Department of Visual Arts.

Theatre and Dance, Acting Performance Concentration, B.F.A.

The BFA in Acting Performance is designed for those students pursuing pre-professional training in theatre and or / for those preparing to enter performance focused graduate programs.

This degree requires 70-71 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met

before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Acting Concentration:
Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2

- THEA 2444 - Stage Management Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3750 - Acting for the Camera Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 4820 - Directing I Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3
- Foreign Language Credits: 8

A&S Global Credits: 3
A&S Diversity Credits: 3

Three Hours From the Following:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Theatre and Dance, B.A.

The Bachelor of Arts in Theatre and Dance is designed to provide training for professional careers in theatre, dance, and many other performing arts.

Tracks:

- Theatre and Dance, Theatre Track, B.A.
- Theatre and Dance, Dance Track, B.A.

Theatre and Dance, Dance Performance Concentration, B.F.A.

The BFA in Dance Performance provides extensive, holistic, and well-rounded training for physical, creative, and intellectual development. Students will establish a strong foundation in dance technique, creative and teaching practices, kinesiology, history, and more. This degree track supports careers in all fields of dance, including but not limited to performance, choreography, and education. Majors are supported by dance faculty and artists who are current professionals in the dance field. The degree culminates in a student-driven final project.

Admission to the BFA in Dance Performance program is by application after 2 semesters of enrollment.

This degree requires 71-74 credits in the major, 44 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Dance Performance Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1405 - Movement Fundamentals & Conditioning Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2160 - Stage Makeup Credits: 2

OR

- THEA 2230 - Stage Lighting I Credits: 3

OR

- THEA 3820 - Costume Design I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2420 - Intermediate Ballet II Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 2450 - Intermediate Tap I Credits: 1
- THEA 2480 - Intermediate Jazz I Credits: 1

- THEA 3021 - Foundations of Dance Pedagogy Credits: 1
- THEA 3100 - Kinesiology for Dance Credits: 3
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- THEA 3490 - Advanced Jazz I Credits: 1
- THEA 4001 - Historical Dance Credits: 2
- *Plus 8 credits total in any combination of THEA 4010 and THEA 4030*

- THEA 4010 - Advanced Ballet Credits: 1-3

- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4200 - Dance History II Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2
- THEA 4260 - Intermediate Dance Composition Credits: 2-3
- THEA 4700 - Professional Seminar in Dance Credits: 1
- THEA 4880 - Advanced Theatre Practice Credits: 1
- THEA 4880 - Advanced Theatre Practice Credits: 1-2

- THEA 4950 - Senior Thesis Credits: 3

OR

- THEA 4960 - Senior Project Credits: 1-3

- THEA 4975 - Theatre/Dance Internship Credits: 1-12

- LIFE 1000 Credits: 4

OR

- LIFE 1010 - General Biology Credits: 4

OR

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4

- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- Foreign Language Credits: 8
- First Aid/CPR Credits: 0

A&S Global Credits: 3
A&S Diversity Credits: 3

Theatre and Dance, Dance Science Concentration, B.F.A.

The BFA in Dance Science is a professionally oriented degree for students interested in a career in research, science, or movement studies. The degree pairs dance training and theory with courses in Departments of Kinesiology and Health Promotion, Psychology, Nutrition, and more! Majors are supported by current dance faculty and a wide network of BFA in Dance Science alumni who are working in diverse science fields. The degree culminates in a student-driven final research project.

Admission to the BFA in Dance Science program is by application after 2 semesters of enrollment.

This degree requires 78 credits in the major, 44 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3

- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Dance Science Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1405 - Movement Fundamentals & Conditioning Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2420 - Intermediate Ballet II Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3021 - Foundations of Dance Pedagogy Credits: 1

- THEA 3100 - Kinesiology for Dance Credits: 3
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- *Plus 2 credits total in any combination of THEA 4010 and THEA 4030*

- THEA 4010 - Advanced Ballet Credits: 1-3

- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4200 - Dance History II Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2
- THEA 4260 - Intermediate Dance Composition Credits: 2-3
- THEA 4880 - Advanced Theatre Practice Credits: 1-2
- THEA 4990 - Research in Theatre Credits: 1-3
- LIFE 1010 - General Biology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- PSYC 1000 - General Psychology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3

- KIN 4020 - Motor Behavior Credits: 3

OR

- KIN 3034 - Lifespan Motor Development Credits: 3

- KIN 3037 - Sport Psychology Credits: 3

OR

- KIN 3038 - Exercise Psychology Credits: 3

- Foreign Language Credits: 8
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Additional Upper-division Required Course Work

(minimum 6 hours from the following courses):

- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3040 - Teaching Human Anatomy Credits: 3
- FCSC 3145 - Sports Nutrition and Metabolism Credits: 3
- FCSC 4147 - Nutrition and Weight Control Credits: 3
- PSYC 3120 - Cognitive Psychology Credits: 3
- PSYC 3250 - Health Psychology Credits: 3
- PSYC 4070 - Motivation Credits: 3

Theatre and Dance, Design Tech Management Concentration, B.F.A.

The BFA in Design/Technical Management is a professionally oriented degree for students interested in pre-professional theatre design, production and management or graduate study. Students will gain experience in all aspects of technical theatre, including scenic, lighting, costumes, sound, projections and stage management. Coursework includes both design and production courses created to equip students with both the conceptual and practical skills necessary to succeed in technical theatre.

This degree requires 69-70 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for a B.F.A. with Design Tech Management Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser*.

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1050 - Beginning Drawing and Painting Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2250 - Computer Aided Design I Credits: 3

- THEA 2444 - Stage Management Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 2185 - Period Style for Theatre I Credits: 3
- THEA 2215 - Period Style for Theatre II Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3805 - Stage Lighting 2 Credits: 3
- THEA 3810 - Scene Design I Credits: 3
- THEA 3820 - Costume Design I Credits: 3
- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4810 - Scene Design II Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4850 - Costume Design II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3

Foreign Language Credits: 8
A&S Global Credits: 3
A&S Diversity Credits: 3

Recommended Electives:

- THEA 2145 - Costume Construction Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2320 - Scenic Painting for the Theatre Credits: 3
- THEA 2390 - Sound Design for Theatre and Dance Credits: 3
- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Theatre and Dance, Musical Theatre Performance Concentration, B.F.A.

The BFA in Musical Theatre Performance is designed for those students pursuing pre-professional training in musical theatre and/or for those preparing to enter performance focused graduate programs.

This degree requires 60-70 credits in the major, 32 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

The following are the required courses for a Bachelor of Fine Arts in Performance (Musical Theatre):

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3

- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 1360 - Fundamentals of Music for Theatre Majors Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2160 - Stage Makeup Credits: 2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2300 - MT Workshop: Scene Study Credits: 1
- THEA 2340 - Musical Theatre Voice Lesson Credits: 1

- THEA 2155 - Movement for Actors I Credits: 2

OR

- THEA 4730 - Movement for Actors II Credits: 2
- THEA 2444 - Stage Management Credits: 3
- THEA 3300 - MT Workshop: Production Credits: 1-2

- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- Foreign Language Credits: 8
- Plus two additional dance courses

Credits / Units: 2-3

A&S Global Credits: 3

A&S Diversity Credits: 3

Plus 3 Hours From the Following:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Theatre and Dance, Theatre/English Concentration, B.F.A.

The BFA in Theatre and Dance, Theatre/English concentration is designed primarily for students who seek additional professional education and certification, or for those who wish to enter graduate programs.

This degree requires 60-70 credits in the major, 39 of which are upper-division credits.

University Studies Program Requirements

The University Studies Program 2015

- FYS- First Year - Seminar Credits: 3
- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3

- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3

Required Courses

These are the required courses for a B.F.A. with Theatre/English Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2100 - Acting II Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2220 - Stagecraft Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 3740 - Acting Styles Credits: 3
- THEA 3810 - Scene Design I Credits: 3
- THEA 3820 - Costume Design I Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4820 - Directing I Credits: 3
- THEA 4830 - Directing II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3
- ENGL 2000 Credits 6
- ENGL 4000 Credits: 9
- ENGL 4110 Credits: 3

OR

- ENGL 4120 Credits: 3

- Foreign Language Credits: 8
  A&S Global Credits: 3
  A&S Diversity Credits: 3

Visual Communication Design, B.F.A.

The BFA in Visual Communication Design is a professional degree open to outstanding students through an application process who are preparing for design studies, careers and professional activity in design.

Degree Requirements

This degree requires 122 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

A&S College Core

The **BFA in Visual Communication Design** requires the **A&S Core**:

- **D** - Diversity (3 credits)
- **G** - Global (3 credits)

See below for more information:

- http://www.uwyo.edu/as/current-students/index.html

Foundation Core: 15 Hours

- ART 1005 - Drawing I Credits: 3
  required
- ART 1110 - Foundation: Two Dimensional Credits: 3
  required
- ART 1120 - Foundation: Three Dimensional Credits: 3
  required
- ART 1130 - Foundation: Color Theory Credits: 3
  required
- ART 2000 - Portfolio Review Credits: 1
  required
- ART 1115 - Digital Media Credits: 1
  required
- ART 2305 - Techniques: Wood/Art Preparation Credits: 1
  required

Studio Core: 12 Hours

> *12 credits chosen from the below. At least one course must be from 2D and one from 3D.*

2D Studio

Note: only one Photography class can count in the Studio Core

- ART 2005 - Drawing II Credits: 3
- ART 2210 - Painting I Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3

- ART 2255 - Introduction to Photography, Digital Credits: 3

OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3

- ART 3510 - Printmaking I Credits: 3

3D Studio

- ART 2310 - Sculptural Practices I Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 2425 - Ceramics I Credits: 3

Art History and Design Theory Core: 9 Hours

- ART 2010 - Art History I Credits: 3

  required
- ART 2020 - Art History II Credits: 3

  required
- ART 2030 - History of Graphic Design Credits: 3

  required

Upper Division Art History - 20th and 21st Century: 6 Hours

* six hours in ART 4740 and ART 4770

- ART 4740 - 20th Century European Art Credits: 3

  required
- ART 4770 - Contemporary Arts Seminar Credits: 3

  required

VCD Core: 12 Hours

- ART 2110 - Type I: Thinking with Type Credits: 3

  required
- ART 2112 - VCD I Visual Thinking Credits: 3

  required

- ART 2125 - VCD II Visual Programming Credits: 3

  required

- ART 2255 - Introduction to Photography, Digital Credits: 3

  OR

- ART 2265 - Introduction to Photography, Black and White Credits: 3

Upper Division VCD: 15 Hours

- ART 3112 - Type: Type, Images, and Narrative Credits: 3

  required

- ART 3120 - VCD III: Visual Making Credits: 3

  required

- ART 3150 - VCD IV: Visual Imaging in Time Credits: 3

  required

- ART 4120 - VCD VI: Senior Design Studio Credits: 3

  required

- ART 4400 - Internship Credits: 1-3

  OR

- ART 4425 - Graphics Internship Credits: 3

BFA Core: 12 Hours

- ART 4010 - Contemporary Art: Theory/Practice Credits: 3

  required

- ART 4600 - Professional Practices and Strategies Credits: 3

  required

- ART 4800 - BFA Capstone I Credits: 3

  required, offered only fall semester

- ART 4840 - BFA Capstone II Credits: 3

  required, offered only spring semester

Upper Division Studio Electives: 9 Hours

9 credits of any upper division studio art classes

Foreign Language: 8 Hours

* 8 credits in any foreign language:

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Additional Requirements

B.F.A. in Visual Communication Design

Designers explore a variety of visual communication design topics dealing with diverse messages and audiences. Students interested in pursuing a career in design, including visual communication design, graphic design, motion graphics, animation, digital media, etc. may apply into the B.F.A. in Visual Communication Design. Students planning to graduate in four years with a B.F.A. in Visual Communication Design should complete their Foundation Core in their Freshman year and take the appropriate Studio Core classes in their sophomore year. As a Professional Degree, the B.F.A. in Visual Communication Design does not include the A&S Outside Major credit requirement.

Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. To obtain a B.F.A. in Visual Communication Design degree in the Department of Visual Arts students must have a minimum 3.00 overall UW-total institutional GPA, and a 3.25 GPA in all major courses at the time of graduation.

The Visual Communication Design degree provides students with a human-centered approach to making and thinking as

designers. Students learn through digital and hands-on-making design challenges to develop critical narrative skills and refine their ability to think conceptually. Individual projects and research prepare each student to think flexibly in an international community that is continually being influenced by new ideas, tools, and technologies. The Visual Arts Building, design computer classroom, and design and fabrication studio facilities offer undergraduate students ample research, design, and production space with access to cutting-edge technology, and open-source, industry standard software and tools for design exploration.

Application

Formal application is made to the program for acceptance into the B.F.A. in Visual Communication Design degree program. Applications must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty reviews of the application materials are required before a student is declared a candidate for the B.F.A. in Visual Communication Design degree. Applicants must have achieved the following at the time of application to the B.F.A. in Visual Communication Design:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA
- Successful completion of ART 2000: Portfolio Review

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Visual Communication Design candidate. Students should apply at least three semesters before graduation. Application does not automatically guarantee acceptance into the B.F.A. in Visual Communication Design program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The

courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Visual Communication Design after one semester in the Department of Visual Arts.

Minor

African American and Diaspora Studies Minor

Thematic tracks in the major or minor are optional:

- History
- Culture & Aesthetics
- Politics & Law
- Rhetoric & English
- Religion & Philosophy
- Media Studies

Minor Requirements

The minor in African American and Diaspora Studies consists of 21 credit hours:

- 9 credit hours of core course requirements
- 9 credit hours of electives (excludes core courses)
- 3 credit hours of senior thesis seminar (AAST 4975, Capstone)

Aging Studies Minor

The aging studies minor program provides students with a comprehensive understanding of the challenges and opportunities associated with an aging population and prepares them to contribute

to the development of policies and programs that promote healthy aging and enhance the quality of life for the elderly.

Degree Requirements

A minor in aging studies requires 18 credit hours.

Core Courses

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- PSYC 3400 - Community Resources for Older Adults Credits: 3
- PSYC 4970 - Aging Minor Internship Credits: 1-6

Electives

(9 credits hours - 6 credits must be outside student major)
An interdisciplinary program, current approved courses are offered through the College of Agriculture, College of Arts and Sciences, and College of Health Sciences.

Background Check

Students seeking the minor in Aging Studies will be required to obtain a background check. Please contact us for specific information.

American Politics Minor

The American Politics minor delves into the mechanics of politcs in the United States by studying historical and current implications.

Requirements

A minor in American Politics requires

- POLS 1000 - American and Wyoming Government Credits: 3

- POLS 4850 - Seminar in American Politics and Institutions Credits: 3

OR

- POLS 4840 - Seminar in Public Law Credits: 3

- 12 hours from an approved list of courses, with a minimum of 9 hours at the 3000-level or above.

Approved American Politics Minor Courses

- POLS 2000 - Current Issues in American Government Credits: 3
- POLS 2070 - Politics of State and Local Government Credits: 3
- POLS 2410 - Introduction to Public Administration Credits: 3
- POLS 2430 - Parties, Interest Groups and Elections Credits: 3
- POLS 2450 - Politics and Media Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3520 - Voting and Participation in America Credits: 3
- POLS 3550 - Political Communication Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4420 - Seminar in Public Administration Credits: 3 (Max. 6)
- POLS 4430 - United States Presidency Credits: 3

- POLS 4435 - Presidential Elections Credits: 3
- POLS 4520 - Public Opinion Credits: 3
- POLS 4530 - U.S. Congress Credits: 3
- POLS 4550 - Internship in Government Credits: 1-6 (dept. approval required)(1-6)
- POLS 4560 - Washington Semester Program Credits: 15 (Max. 6)
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required)(Max. 9)
- POLS 4720 - Workshop in Practical Politics Credits: 1-3 (Max. 6)
- POLS 4840 - Seminar in Public Law Credits: 3 (Max. 6)
- POLS 4850 - Seminar in American Politics and Institutions Credits: 3 (Max. 6)

American Studies Minor

Students may minor in American Studies through a program of 24 credit hours of study, with credit hours evenly distributed between lower and upper division courses, which include at least 3 courses in American Studies (with the AMST course prefix), at any level (except AMST 1101), in consultation with and depending on approval by a faculty advisor in American Studies. Coursework for the minor may be matched with a student's major requirements in related disciplines and fields.

Anthropology Minor

Students will gain introductory training in at least two of the subfields of Anthropology combined with three or four upper division courses.

Introductory Courses

The minor for non-anthropology majors requires two of the introductory courses:

- ANTH 1100 - Introduction to Biological Anthropology Credits: 4
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ANTH 1300 - Introduction to Archaeology Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3

Electives

- 11-12 hours of electives from 2000, 3000, or 4000-level anthropology courses with no more than 3 hours at the 2000-level.

Art History Minor

The Art History Minor introduces students to the discipline of Art History in a 21 credit hour sequence.

Art History Sequence: 6 Hours

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Lower Division Requirement: 3 Hours

- ART 2070 - Introduction to Museology Credits: 3

OR

- ART 2030 - History of Graphic Design Credits: 3

Other Traditions: 3 Hours

Including but not limited to Art & Architecture of Medieval Islam, Japanese Art History, Meso-American Art History

- ART 3720 - Art and Architecture of Medieval Islam Credits: 3

Art History Electives at the 3000/4000-level: 9 Hours

Art History Electives at the 3000/4000-level (including additional Other Traditions) Credits: 9

Total Credits: 21 Hours

Asian Studies Minor

The Asian Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of an Asian region or a single country. The program emphasizes a social science approach to the study of Asian history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Asia is defined first and foremost as a geographic entity to include Western, Northern, Central, South and East Asian areas. Thus, for example, countries such as modern Turkey and areas such as the 'Middle East' can rightly be included in 'Asia' alongside areas more traditionally understood as part of Asia such as China and India.

Course Requirements (18 Credits)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours)

All Asian Studies Minor students must complete one of two required Gateway

courses depending on their primary area of interest within Asia.

- INST 2230 - Introduction to Asian Studies Credits: 3 (G/COM2)

OR

- POLS 3270 - Governments and Politics of the Middle East Credits: 3

Asian Studies Area Courses (15 Credit Hours)

Asian Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved Asian Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Asian Studies Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what Asian Studies Area courses are currently being offered.

Approved Asian Studies Area Courses

- ART 2720 - Introduction to the Art and Culture of Islam
- ART 4650 - International Study of Art Credits: 3
- CHIN 1101 - First-Year Seminar Credits: 3
- CHIN 2041 - Contemporary and Traditional Chinese Culture Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2320 - History of Islam Credits: 3

OR

- RELI 2320 - History of Islam Credits: 3
- HIST 2460 - Traditional Japan Credits: 3
- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 3210 - The Islamic World in the Premodern Era
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- GWST 4335 - Women and Islam Credits: 3
- HIST 4520 - Modern Far East: China, Japan and India
- INST 2230 - Introduction to Asian Studies Credits: 3
- INST 3100 - Chinese Society Credits: 3

OR

- SOC 3100 - Chinese Society Credits: 3
- INST 3400 - Politics and Society of Turkey Credits: 3
- INST 4200 - China and Globalization Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3
- INST 4560 - Global Cities Credits: 3
- INST 4590 - Sustainable Business Practices Credits: 3

OR

- LANG 2150 - Manga: History and Culture Credits: 3
- LANG 3105 - Major Themes in Chinese and Japanese Literature Credits: 3
- LANG 3140 - Anime: History and Culture Credits: 3
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam Credits: 3
- RELI 2050 - Religions of Asia Credits: 3

- RELI 2315 - History of Non-Western Religions Credits: 3
- RELI 3320 - Eastern Thought Credits: 3

OR

- PHIL 3320 - Eastern Thought Credits: 3
- RELI 3340 - Mysticism, Yoga, and Enlightenment in the East Credits: 3
- RELI 3344 - Gods, Avatars, Heroes, and Mystics
- SOC 3050 - Japanese Society

Optional Asian Study Abroad Component

Asian Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Asia to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the Asian Studies Area Course requirement on the approval of the student's designated minor advisor. Optional Asian Foreign Language Component Asian Studies Minor students are also strongly encouraged to learn an Asian foreign language as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower-division (1000-2000) credit hours of an Asian foreign language may be counted towards fulfillment of the Asian Studies Area Course requirement. 'Asian' languages at UW include Japanese, Chinese and Arabic. However, Asian Studies Minor, students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other Asian language instruction at UW, other relevant in-country summer intensive programs, or languagefocused study abroad programs.

Ceramics Minor

The Ceramics Minor introduces students to the discipline of Ceramics in a 24 credit hour sequence.

Required Courses: 18 Hours

- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2425 - Ceramics I Credits: 3
- ART 3410 - Ceramics III/I Credits: 3
- ART 3420 - Ceramics III/II Credits: 3
- ART 4410 - Ceramics IV/I Credits: 3
- ART 4420 - Ceramics IV/II Credits: 3

Studio Elective Courses in Ceramics: 3 Hours

- ART 2350 - Metalsmithing I Credits: 3

OR

- ART 2310 - Sculptural Practices I Credits: 3

Art History Survey Elective: 3 Hours

Choose one of the following:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Chinese Minor

A Minor in Chinese consists of a minimum of 18 credit hours, including successful completion of 10 credit hours of Chinese language and culture courses at and above CHIN2040 on campus and 9 credit hours of an intensive summer study in China.

Prerequisites

Completion of:

- CHIN 1010 - First Year Chinese I Credits: 4
- CHIN 1020 - First Year Chinese II Credits: 4

- CHIN 2030 - Second Year Chinese I Credits: 4

Requirements

- CHIN 2040 - Second Year Chinese II Credits: 4
- CHIN 3055 - Business Chinese Credits: 3
- CHIN 3160 - See Movies, Touch China Credits: 3

Or

- CHIN 4070 - Business Chinese II Credits: 3

Study Abroad

Summer Study in China is required for completion of 9 credit hours of coursework:

- CHIN 2041 - Contemporary and Traditional Chinese Culture Credits: 3
- CHIN 3050 - Intermediate Composition and Conversation Credits: 3
- CHIN 3065 - Intermediate Composition and Conversation II Credits: 3

Total: 19 Hours

Note: Study abroad is required for completion of 12 credit hours of coursework for this minor.

Classical Civilizations Minor

As a Classical Civilizations Minor, you will develop an interdisciplinary understanding of Classical Greek and Roman material, intellectual, and cultural traditions that have helped shape western systems and values.

Requirements

- CLAS 2020 - Classical Greek Civilization Credits: 3

OR

- CLAS 2040 - Classical Roman Civilization Credits: 3

OR

- HIST 2130 - Ancient Rome Credits: 3

Electives

12 hours chosen from Classics 3000-level or above; PHIL 3120, PHIL 4020, or PHIL 4030:

- CLAS 3050 - Athenian Democracy Credits: 3
- CLAS 3160 - "What Killed Socrates?" Credits: 3
- CLAS 4230 - Greek Tragedy Credits: 3
- CLAS 4270 - Classical Epic Poetry Credits: 3
- CLAS 4975 - Independent Study Credits: 1-4
- CLAS 4990 - Topics in Classical Civilization Credits: 1-4
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3

Other courses about ancient Mediterranean cultures that are not taught under Classics may be submitted for approval to the Classics section head.

Up to 6 hours of Latin at the 3000-level or above may be counted as electives:

- LATN 3110 - Vergil, The Aeneid I Credits: 3
- LATN 3120 - Vergil, The Aeneid II Credits: 3
- LATN 3140 - Caesar Credits: 2
- LATN 3150 - Livy Credits: 3
- LATN 3160 - Ovid Credits: 2
- LATN 3990 - Independent Study Credits: 1-4
- LATN 4110 - Horace Credits: 3
- LATN 4115 - Latin Philosophers Credits: 3

Total: 18 Hours

Communication Minor

The communication minor is an excellent companion to a variety of majors, such as political science, business, environment, agriculture and many others that need excellent communication skills.

Required: 12 Hours

- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3040 - Advanced Communication Theory Credits: 3

Electives: 6 Hours

- COJO 3160 - Theory of Language and Society Credits: 3
- COJO 3190 - Cross-Cultural Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (limited to 3 credits)
- COJO 3520 - Communication Technology and Society Credits: 3
- COJO 3550 - Political Communication Credits: 3
- COJO 3900 - Family Communication Credits: 3
- COJO 4020 - Mass Media and Society Credits: 3
- COJO 4030 - Advanced Interpersonal Communication Credits: 3
- COJO 4050 - Communication and Conflict Credits: 3
- COJO 4061 - Rhetorical Theory and Criticism Credits: 3
- COJO 4140 - Nonverbal Communication Studies Credits: 3
- COJO 4250 - Advanced Organizational Communication Credits: 3

- COJO 4260 - Rhetoric and Social Justice Credits: 3
- COJO 4620 - Intergroup Communication Credits: 3
- COJO 4640 - Communication Apprehension/ Competence Credits: 3
- COJO 4210 - Special Topics in Communication Credits: 1-3 (no more than one)

Total: 18 Hours

Other Information:

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Creative Writing Minor

The Creative Writing Minor teaches the fundamentals of creating original work while providing opportunities for the exploration of blended genres and interdisciplinary work. A minor in Creative Writing complements majors from a wide array of departments and colleges.

Creative Writing Minor

Minor in Creative Writing. The creative writing minor consists of six courses (18 hours) in creative writing and literature. Four of these courses will be in creative writing (12 hours) and must adhere to the following sequence: CW 1040 Intro to Creative Writing, two Lower Division Creative Writing courses (at the 2000-level), and an Upper Division course (4050). (excluding CW 2200 from lower-division courses). In addition, two courses will be in literature (6 hours). All courses must be completed with grades of C or better.

This minor is intended to be used with any major and must be designed in conjunction with a creative writing advisor. Each course must be passed with a grade of C or better.

Criminal Justice Minor

Criminal Justice is a social science that examines the causes and impacts of crime in society. A minor in criminal justice requires 18 semester hours in criminal justice. All courses must be completed with a grade of C or better.

Required Courses

- CRMJ 1001 - Introduction to Criminal Justice Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3

- CRMJ 2400 - Criminology Credits: 3

OR

- SOC 2400 - Criminology Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 3350 - Correctional Theory and Practice Credits: 3
- CRMJ 3490 - Issues in Policing Credits: 3

Digital Media Minor

The Digital Media Minor introduces students to the discipline of Digital Media in a 28 credit hour sequence.

Required Courses: 19 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1115 - Digital Media Credits: 1
- ART 2030 - History of Graphic Design Credits: 3
- ART 2110 - Type I: Thinking with Type Credits: 3
- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2125 - VCD II Visual Programming Credits: 3
- ART 3150 - VCD IV: Visual Imaging in Time Credits: 3

Foundation Electives: 3 Hours

- ART 1110 - Foundation: Two Dimensional Credits: 3

OR

- ART 1130 - Foundation: Color Theory Credits: 3

VCD Electives: 3 Hours

- ART 3112 - Type: Type, Images, and Narrative Credits: 3

OR

- ART 4120 - VCD VI: Senior Design Studio Credits: 3

Art History Survey Elective: 3 Hours

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 28 Hours

Drawing Minor

The Drawing Minor introduces students to the discipline of Drawing in a 21 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 2005 - Drawing II Credits: 3
- ART 3052 - Life Drawing I Credits: 3

Studio Elective Courses in Drawing: 6 Hours

*6 credits chosen from the following...

- ART 3005 - Drawing III Credits: 3
- ART 4005 - Drawing IV Credits: 3
- ART 4052 - Life Drawing II Credits: 3
- ART 3250 - Watercolor Painting I Credits: 3
- ART 3260 - Illustration I Credits: 3
- ART 4250 - Watercolor Painting II Credits: 3
- ART 4260 - Illustration II Credits: 3
- ART 4975 - Independent Study and Research Credits: 1-3

Art History Survey Elective: 3 Hours

Choose one from

- ART 2010 - Art History I Credits: 3
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Environmental Values Minor

The minor in Environmental Values explores the vital link among the natural sciences, humanities, and the social sciences in grappling with environmental challenges.

Course Requirements

The minor in Environmental Values may be added to any bachelor's program at UW.

The minor requires a total of 18 credit hours, including at least one course within each of four areas of concentration. At least 12 of these credits must be outside the primary major, and nine of these credits must be at or above the 3000-level. A three-hour, core course (either Phil 2330 Environmental Ethics or Phil 2345 Natural Resource Ethics) is required of all students.

Core Course

A three-hour, core course is required of all students.

- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3

Areas of Concentration:

(note: the courses listed below are provided as examples of the type of courses that meet the various areas of concentration. Other courses may be approved on a course by course basis in consultation with the Philosophy Department Undergraduate Advisor.)

Aesthetics

Expressing ourselves through the performing, visual and literary arts:

- GEOG 4500 - The American Landscape Credits: 3
- THEA 2400 - Vertical Dance I Credits: 1
- THEA 3400 - Vertical Dance II Credits: 1

Culture

Viewing human meaning and purpose in historical and contemporary terms:

- NAIS 3000 - Plains Culture and History Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 4480 - Regional Literature of the US: The West Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- HIST 4475 - American Environmental History Credits: 3

Ethics

Considering right and wrong via critical and systematic thinking and doing:

- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

Policy

Exploring laws, regulations, and public discourse in American society:

- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

Ethics Minor

A minor in Ethics enhances and compliments any major, such as education, health sciences, law, business, engineering, computer science, political science, or communication.

Course Requirements

A minor in Ethics requires a minimum of 18 hours. One course from each of the three areas plus a capstone course.

A Student Takes One Course in Each of These Areas:

1. Ethical Theory

- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3250 - Global Justice Credits: 3

2. Applications

(other courses determined on a case by case basis in consultation with the Philosophy Department)

- PHIL 2300 - Ethics in Practice Credits: 1-3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 2345 - Natural Resource Ethics Credits: 3
- PHIL 3340 - Philosophy in Literature Credits: 3
- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

3. Scientific, Historical and Social Analysis

(other courses determined on a case by case basis in consultation with the Philosophy department)

- PHIL 3100 - History of Modern Philosophy: The Rationalists Credits: 3
- PHIL 3110 - History of Modern Philosophy: The Empiricists Credits: 3
- PHIL 3120 - Ancient Greek Philosophy Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3160 - "What Killed Socrates?" Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3

- PHIL 3320 - Eastern Thought Credits: 3
- PHIL 4020 - Plato Credits: 3
- PHIL 4030 - Aristotle Credits: 3
- PHIL 4040 - Kant Credits: 3
- PHIL 4120 - Philosophy and the 20th Century Credits: 3
- PHIL 4130 - Figures in Modern and 19th Century Philosophy Credits: 3
- PHIL 4140 - Topics in Philosophy of Science Credits: 3

Capstone Course

The capstone course is an independent study normally taken during a student's senior year. The course integrates the student's different areas of study in the ethics minor into a project or thesis. Any professor in any college can sponsor this independent study. Capstone topics must be approved by the ethics minor advisor. (determined in consultation with the Philosophy Department Undergraduate Advisor)

Electives

The other two courses are approved electives, (2 courses from Areas 1, 2 or 3 -- each from a different area).

European Studies Minor

The European Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of a European region or a single country.

The program emphasizes a social science approach to the study of modern European history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Europe is defined first and foremost as a geographic entity running from the Atlantic to the Urals and from Scandinavia to the Mediterranean and the Caucasus Mountains. Courses that transcend

these boundaries should include the study of Europe in a prominent way to count toward the minor.

All required courses for the major must be passed with a grade of C or better. A course cannot simultaneously fulfill more than one major requirement.

Course Requirements (18 Hours)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours)

All European Studies Minor students must complete one of two required Gateway courses, either:

- INST 2280 - Introduction to European Studies Credits: 3 (COM2)

OR

- POLS 2200 - Politics of Europe Credits: 3 (COM2)

OR

- INST 2200 - Politics of Europe Credits: 3 (COM 2)

European Studies Area Courses (15 Credit Hours)

European Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved European Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Area Course requirements based on the approval

of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what European Studies Area courses are currently being offered.

Approved European Studies Area Courses

- A&S 2200 - British Life and Culture
- FREN 2130 - Contemporary French Culture Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 4085 - Studies in French Culture
- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 4265 - Divided Nation: Politics and Culture in Germany 1945 - 1990
- GERM 4285 - 20th/21st Century German Film Credits: 3
- HIST 2080 - Holocaust Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3
- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4280 - France Since 1814
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- INST 2280 - Introduction to European Studies Credits: 3
- INST 4330 - American Foreign Relations Credits: 3

OR

- POLS 4330 - American Foreign Relations Credits: 3

OR

- SOC 4330 - The World System

- INST 4380 - International History of Human Rights Credits: 3
- INST 4881 - International Social Welfare and Social Development Credits: 3

- POLS 2200 - Politics of Europe Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 4215 - European Union Credits: 3
- RELI 4150 - Christianity, Jews and Muslims in Iberia
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3

Optional European Study Abroad Component

European Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Europe to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the European Studies Area Course requirement on the approval of the student's designated minor advisor.

Optional European Foreign Language Component

European Studies Minor students are also strongly encouraged to learn an European foreign language (other than English) as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower division (1000-2000) credit hours of an European foreign language may be counted towards fulfillment of the European Studies Area Course requirement. 'European' languages at UW include French, German, and Spanish. However, European Studies Minor students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other European language instruction at UW, other relevant in-country summer intensive programs, or language-focused study abroad programs.

French Minor

As a French Minor, you will develop your speaking, listening, and communication skills as a French speaker. You will gain a better understanding of perspectives and experiences of French speaking cultures.

Requirements

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3050 - Third Year French I Credits: 3

Electives

- 9 hours chosen from French at the 3000 or 4000 level.
- Minors are encouraged to take one to two 4000 level courses with a traditional course load consisting of one 3000 level course and two 4000 level courses
- Elective courses include:
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- FREN 3060 - Third Year French II Credits: 3
- FREN 3110 - Contemporary French Civilization Credits: 3
- FREN 3990 - Independent Study Credits: 1-4
- FREN 4080 - Studies in the French Language Credits: 3
- FREN 4100 - A Survey of French Literature I Credits: 3
- FREN 4110 - A Survey of French Literature II Credits: 3
- FREN 4120 - Medieval French Literature Credits: 3
- FREN 4140 - 17th Century French Literature Credits: 3
- FREN 4200 - Introduction to Research Credits: 3
- FREN 4250 - 19th Century French Literature Credits: 3

- FREN 4260 - 20th Century French Literature Credits: 3
- FREN 4350 - Studies in French and Francophone Literatures Credits: 3
- FREN 4990 - Advanced Independent Study Credits: 1-3

Total: 18 Hours

Gender and Women's Studies Graduate Minor

Provides advanced, interdisciplinary, intersectional training in feminist and gender theory and praxis. This minor offers crucial knowledge and skills to students pursuing a wide range of graduate degrees and professional paths.

Requirements

A total of 12 credit hours are required to complete the Graduate Minor in GWST. This includes the following:

- GWST 5710 - Feminist Theoretical Perspectives Credits: 3 OR Approved Substitute
- An additional 9 credit hours of GWST electives, including 6 credits at the 5000-level.
- When practical, students should include a GWST faculty member on their thesis, dissertation or Plan B committees. Students in professional programs without a culminating research project can meet this requirement through alternative means.

Additional Information

Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), to discuss individual plans of study.

Gender and Women's Studies Minor

Provides foundational knowledge in historical and contemporary issues related to sex, gender, and sexuality. Upon completion, students will be able to apply intersectional feminist and gender theories to interdisciplinary research and practice.

Requirements

Students must complete 18 hours of GWST course work. Nine of the required hours must be 3000-level or above. At least 15 credit hours must be completed with a grade of "C" or better.

Core Course: 3 Credits

Complete at least ONE of the following core courses.

Note: some of these courses have prerequisites, so taking a lower and upper level course from this list is recommended, but not required:

- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3
- GWST 3600 - Gender, Race, Sex & Social Systems Credits: 3
- GWST 4700 - Feminist Theories Credits: 3

  Note: If taken prior to Fall 2022, these courses may also satisfy this requirement: GWST 3710, Gender & Humanities; GWST 2500, Gender & Society; GWST 1900, Women & Leadership.

Electives: 15 credit hours

The additional 15 credit hours can be selected from the complete slate of GWST electives, including those listed above.

Note: a minimum of 12 credit hours in the minor must be exclusive of hours earned in the student's major.

Additional Information

Students in the GWST minor and major are encouraged to work with a faculty advisor to develop an individualized plan of study. Contact the program director, Dr. Michelle Jarman (mjarman@uwyo.edu), for more information.

German Minor

As a German Minor, you will develop your speaking, listening, and communication skills as a German speaker. You will gain a better understanding of perspectives and experiences of German speaking cultures.

Requirements

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Electives

- 9 hours chosen from German at the 3000 or 4000 level.
- GERM 3006 - 20th Century German Culture and Civilization Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3150 - German History and Culture Credits: 3
- GERM 3990 - Independent Study Credits: 1-4
- GERM 4070 - Fourth Year German Credits: 3
- GERM 4080 - German-English and English- German Translation Credits: 3
- GERM 4100 - A Survey of German Literature I Credits: 3

- GERM 4145 - Weimar Classicism Credits: 3
- GERM 4180 - German Poetry Credits: 3
- GERM 4200 - Introduction to Research Credits: 3
- GERM 4240 - German Literature of the Romantic Period Credits: 3
- GERM 4255 - 19th Century German Novellas Credits: 3
- GERM 4275 - Contemporary Migration Literature Credits: 3
- GERM 4285 - 20th/21st Century German Film Credits: 3
- GERM 4990 - Advanced Independent Study Credits: 1-3

Total: 18 Hours

History Minor

Only 18 credit hours of classes to learn professional skills vital to any career. Critical thinking, effective written and oral communication, and multi-perspective analysis highlight History's benefits in whatever profession you pursue.

Requirements

The history minor requires at least 18 credit hours of History courses, 9 hours of which must be Upper-Division (3000 and 4000 level) courses. These courses must be taken for letter grades with a minimum earned grade of C. For assistance in tailoring the minor content, contact the Department of History.

- HIST 1101 - FYS: Hamilton's America: Beyond the Musical Credits: 3
- HIST 1110 - Western Civilization I Credits: 3
- HIST 1120 - Western Civilization II Credits: 3
- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1251 - Wyoming History Credits: 3

- HIST 1290 - History of the U.S. West Credits: 3
- HIST 1320 - World History to 1500 Credits: 3
- HIST 1330 - World History since 1500 Credits: 3
- HIST 2020 - American Military History Credits: 3
- HIST 2030 - History and Environmental Science Credits: 3
- HIST 2040 - Imperial China Credits: 3
- HIST 2041 - Modern China Credits: 3
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 2060 - Topics in History Credits: 2-3
- HIST 2080 - Holocaust Credits: 3
- HIST 2105 - Medieval Europe in Film Credits: 3
- HIST 2130 - Ancient Rome Credits: 3
- HIST 2225 - History of Christianity Credits: 3
- HIST 2230 - The History of Russia to 1855 Credits: 3
- HIST 2240 - The History of Russia Since 1855 Credits: 3
- HIST 2250 - American Religious History I (To 1865) Credits: 3
- HIST 2252 - American Religious History II (1865 to 1945) Credits: 3
- HIST 2280 - Introduction to European Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- HIST 2315 - History of Non-Western Religions Credits: 3
- HIST 2320 - History of Islam Credits: 3
- HIST 2360 - African-American History Credits: 3
- HIST 2370 - Chicano History: Origins to 1900 Credits: 3
- HIST 2380 - Latin American History 1500 to 2000 Credits: 3
- HIST 2385 - Chicano History : 1900 to Present Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2390 - US West Between the World Wars Credits: 3
- HIST 2460 - Traditional Japan Credits: 3

- HIST 2461 - Modern Japan Credits: 3
- HIST 2470 - Civilization of India Credits: 3-4
- HIST 2440 - The Impact of the Union Pacific on Wyoming History Credits: 3
- HIST 2110 - Forgotten Africa: Intro to African Civilizations Credits: 3
- HIST 2070 - Introduction to Museology Credits: 3
- HIST 2075 - Museology II Credits: 3
- HIST 3000 - Plains Culture and History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 3050 - Athenian Democracy Credits: 3
- HIST 3110 - Modern Germany Credits: 3
- HIST 3160 - "What Killed Socrates?" Credits: 3
- HIST 3220 - History of the Modern Middle East Credits: 3
- HIST 3230 - Early Christianity Credits: 3
- HIST 3240 - Reformation and Enlightenment Christianity Credits: 3
- HIST 3300 - Secret History of Science Credits: 3
- HIST 3400 - Mongol Empire Credits: 3
- HIST 3500 - Colonial America Credits: 3
- HIST 3670 - African Diaspora Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- HIST 4060 - Independent Study Credits: 1-3
- HIST 4077 - Book History: Topics Credits: 3
- HIST 4100 - Early Medieval Europe Credits: 3
- HIST 4110 - The High Middle Ages Credits: 3
- HIST 4112 - History of the Medieval City Credits: 3
- HIST 4150 - Europe During the Age of the Enlightenment Credits: 3
- HIST 4170 - Europe in the Nineteenth Century Credits: 3

- HIST 4270 - France: Old Regime and Revolution Credits: 3
- HIST 4290 - History of the Soviet Union Credits: 3
- HIST 4310 - World War II in Europe Credits: 3
- HIST 4340 - The Social History of American Women Credits: 3
- HIST 4380 - International History of Human Rights Credits: 3
- HIST 4400 - Internship Credits: 1-12
- HIST 4406 - American Encounters from 1850 Credits: 3
- HIST 4410 - America in an Early Modern World Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- HIST 4425 - Britain's Global Empires: 1558 to the Present Credits: 3
- HIST 4450 - The Civil War and Reconstruction Credits: 3
- HIST 4462 - American Indian History to 1783 Credits: 3
- HIST 4463 - American Indian History 1783 to 1890 Credits: 3
- HIST 4464 - American Indians in the Twentieth Century Credits: 3
- HIST 4466 - American Indian Ethnohistory Credits: 3
- HIST 4468 - American Indians in the North American West Credits: 3
- HIST 4470 - The Birth of Modern America, 1890 to 1929 Credits: 3
- HIST 4475 - American Environmental History Credits: 3
- HIST 4480 - Growth of Modern America, 1929 to 1960 Credits: 3
- HIST 4485 - U.S. Latino Diaspora Credits: 3
- HIST 4490 - Modern America, 1960 to Present Credits: 3
- HIST 4494 - The U.S. in Latin America Credits: 3
- HIST 4495 - Borderlands in Latin America Credits: 3
- HIST 4505 - The Old South, 1820 to 1861 Credits: 3
- HIST 4510 - Modern East Asia Credits: 3
- HIST 4515 - American Legal History Credits: 3

- HIST 4530 - 19th Century American West Credits: 3
- HIST 4535 - History of Oil Credits: 3
- HIST 4540 - 20th Century American West Credits: 3
- HIST 4545 - The Multicultural West Credits: 3
- HIST 4560 - American Social History in the 20th Century Credits: 3
- HIST 4990 - Topics in _____ Credits: 1-6

Interdisciplinary Pre-Law Minor

The minor requires 18 hours to be completed from among the following courses. Of these 18 hours, 12 must be upper division (3000 or 4000 level). In addition, 12 of the 18 hours must be outside the student's primary major, and none of these courses may be credited toward both the minor and the USP requirement. Complete one course from each of the following categories. All coursework must be completed with a grade of C or better to counted toward the minor.

Language Comprehension & Expression: 3 Hours

- COMM 1030 - Interpersonal Communication Credits: 3

  OR

  COJO 1030 - Interpersonal Communication Credits: 3

- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3160 - Theory of Language and Society Credits: 3
- COJO 4061 - Rhetorical Theory and Criticism Credits: 3

  OR

- ENGL 4061 - Rhetorical Theory and Criticism Credits: 3
- AGEC 4450 - Negotiation Credits: 3

- ANTH 4795 - Language Change Credits: 3

Written Comprehension & Expression: 3 Hours

Any course with a USP designation of C3 may be counted in this area. However, no C3 course may be counted twice toward fulfilling this category and the USP C3 requirement or another category within the prelaw minor.

Critical Understanding of Human Institutions & Values: 3 Hours

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- PHIL 3300 - Ethical Theory Credits: 3
- PHIL 3350 - History of Moral Philosophy Credits: 3
- PHIL 3500 - History of Science Credits: 3
- POLS 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- ENR 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- FCSC 4113 - Consumer Issues Credits: 3
- AAST 4260 - Rhetoric and Social Justice Credits: 3

OR

- COJO 4260 - Rhetoric and Social Justice Credits: 3

- PHIL 4300 - Topics in Ethics Credits: 3-6
- PHIL 4340 - Issues in Environmental Ethics Credits: 3

Creative & Analytical Thinking: 3 Hours

- CW 2050 - Introduction to Fiction Credits: 3
- CW 2060 - Introduction to Nonfiction Credits: 3
- CW 2080 - Introduction to Poetry Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3
- PHIL 3140 - Philosophy of Science Credits: 3
- PHIL 3220 - Existentialism and Phenomenology Credits: 3
- PHIL 3420 - Symbolic Logic Credits: 3
- PHIL 3440 - Philosophy of Mind Credits: 3
- ANTH 4230 - Forensic Anthropology Credits: 3

OR

- CRMJ 4230 - Forensic Anthropology Credits: 3

- PHIL 4420 - Advanced Logic Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3

World Cultures & International Institutions: 3 Hours

- HIST 1330 - World History since 1500 Credits: 3
- ANTH 2200 - World Culture Credits: 3
- PHIL 3250 - Global Justice Credits: 3
- PHIL 3320 - Eastern Thought Credits: 3
- ANTH 3420 - The Anthropology of Global Issues Credits: 3

OR

- INST 3420 - The Anthropology of Global Issues Credits: 3
- INST 3910 - Global Sociology Credits: 3

OR

- SOC 3910 - Global Sociology Credits: 3
- CRMJ 4280 - Comparative Criminal Justice Credits: 3

- INST 4340 - International Organizations Credits: 3

OR

- POLS 4340 - International Organizations Credits: 3

Law: 3 Hours

- MGT 2010 - Legal Environment of Business Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- AGEC 3400 - Agricultural Law Credits: 3
- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3

OR

- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- HIST 4515 - American Legal History Credits: 3
- CRMJ 4540 - Gender and Crime Credits: 3

OR

- GWST 4540 - Gender and Crime Credits: 3
- AGEC 4710 - Natural Resource Law and Policy Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3

OR

- PSYC 4730 - Psychology and Law Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3

International Relations and Comparative Politics Minor

Requirements

A minor in International Relations and Comparative Politics requires

- POLS 2310 - Introduction to International Relations Credits: 3

- POLS 1200 - Non-Western Political Cultures Credits: 3

OR

- POLS 1250 - Introduction to Comparative Government Credits: 3

- POLS 4870 - Seminar in International Relations Credits: 3

OR

- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3

- 9 hours from an approved list of courses, with a minimum of 6 hours at the 3000-level or above.

Approved International Relations and Comparative Politics Minor Courses

- POLS 2200 - Politics of Europe Credits: 3

- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3200 - Comparative Political Cultures Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- POLS 3300 - Model United Nations Credits: 1-3 (Max. 6)
- POLS 4013 - Political Geography Credits: 3
- POLS 4215 - European Union Credits: 3
- POLS 4230 - Governments and Politics of Asia Credits: 3
- POLS 4255 - Politics of Developing Nations Credits: 3
- POLS 4260 - Democratization and Regime Change Credits: 3
- POLS 4290 - Inter-American Relations Credits: 3
- POLS 4330 - American Foreign Relations Credits: 3
- POLS 4340 - International Organizations Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- POLS 4360 - International Peace and Conflict Credits: 3
- POLS 4375 - Transitional Justice Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- POLS 4445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4600 - Political Violence Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required)(Max. 6)
- POLS 4870 - Seminar in International Relations Credits: 3 (Max. 6)
- POLS 4890 - Seminar in Comparative Government and Politics Credits: 3 (Max. 6)

International Studies Graduate Minor

Students graduating with a minor in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Additional Requirements

A graduate minor in international studies provides students in graduate programs other than international studies with the opportunity to acquire a basic graduate-level familiarity with international relations, global processes and cultural diversity around the world. Students acquire a foundation in intergovernmental relations and research methodology. Beyond this, students work closely with a graduate director to fashion a program of study appropriate for their interests and post-graduate plans. The minor complements several other graduate degree programs.

Prerequisites for Admission

Declaration of an international studies minor is contingent on admission to a master's or doctoral degree program. Application is in the form of a letter of interest to the director of the program, including the background, anticipated course of study, and reason for seeking the minor. An interview with the director is also required. All prerequisites for entering the graduate program in international studies as a major apply to the minor with the exception of proficiency in a second language. Students must be prepared for coursework in international studies at the graduate level and be willing to take prerequisite courses if necessary.

Course and Committee Requirements

Graduate students minoring in international studies must satisfy the requirements of their graduate major and take twelve credits of guided graduate coursework in international studies. With the approval of the department of the graduate major, these twelve hours may also count toward the major. Students are required to take at least one advanced theory course (INST 5200) and one advanced research methods course. All courses will be determined in consultation with the program director.

International Studies Minor

Students graduating with a minor in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Additional Information

A minor in international studies requires 12 hours of a single foreign language and 15 hours of international studies curriculum, with a minimum of 9 hours at the 3000-level or above.

Japanese Minor

As a Japanese Minor, you will develop your speaking, listening, and communication skills as a Japanese speaker. You will gain a better understanding of perspectives and experiences of Japanese speaking cultures.

Prerequisites

- JAPN 1010 - First Year Japanese I Credits: 4
- JAPN 1020 - First Year Japanese II Credits: 4
- JAPN 2030 - Second Year Japanese I Credits: 4

Minor Program Requirements

A Japanese minor requires 18 credit hours of coursework which include JPN 2040 and above, and all courses required for a minor in Japanese are offered as online courses. These courses include:

- JAPN 3050 - Third Year Japanese I Credits: 3
- JAPN 3060 - Third Year Japanese II Credits: 3
- JAPN 2070 - Conversational Japanese Abroad Credits: 4
- LANG 2150 - Manga: History and Culture Credits: 3
- LANG 3140 - Anime: History and Culture Credits: 3
- LANG 4800 - Advanced Instruction In: (TOPIC) Credits: 1-3
- LANG 3105 - Major Themes in Chinese and Japanese Literature Credits: 3
- HP 3151 - Topics: Global Perspectives Credits: 3

History and Culture classes (LANG 2150, 3140, 3105, and 4800) rotate every two years, as one History and Culture class is offered a semester. Modern Japanese Society (HP/LANG 3151) is offered twice a year, with one of these classes being a study abroad opportunity.

Journalism Minor

The journalism minor is an excellent companion to a variety of majors, such as political science, business, environment, agriculture and many others that need applied writing and media-oriented skills.

Required Courses: 9 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3

Elective Courses: 9 Hours

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3000 - History of American Journalism Credits: 3
- COJO 3100 - Public Affairs Reporting Credits: 3
- COJO 3200 - Graphics of Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (limited to 3 credits)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 3550 - Political Communication Credits: 3
- COJO 4020 - Mass Media and Society Credits: 3
- COJO 4040 - Digital Video Production Credits: 3
- COJO 4200 - Visual Communication Credits: 3
- COJO 4230 - Special Topics in Mass Media Credits: 1-3 (no more than one)
- COJO 4233 - Race, Gender, Ethnicity in the Media Credits: 3
- COJO 4400 - Photojournalism Credits: 3 (COMM 2400 prerequisite)
- COJO 4530 - Web Design Credits: 3
- COJO 4700 - Media, Science, and Society Credits: 3

Total: 18 Hours

Additional Information

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Latin Minor

As a Latin Minor, you will develop the communication skills necessary to read an original text of Classical Latin in prose or verse as well as the cultural knowledge essential to understand and analyze it.

Requirements

- LATN 3110 - Vergil, The Aeneid I Credits: 3
- LATN 3140 - Caesar Credits: 2
- LATN 4120 - Catullus and the Elegiac Poets Credits: 3
- LATN 4130 - Cicero Credits: 3

Electives

7 hours chosen from Latin at the 3000-level or above.

- LATN 3120 - Vergil, The Aeneid II Credits: 3
- LATN 3150 - Livy Credits: 3
- LATN 3160 - Ovid Credits: 2
- LATN 3990 - Independent Study Credits: 1-4
- LATN 4110 - Horace Credits: 3
- LATN 4115 - Latin Philosophers Credits: 3

Total: 18 Hours

Latina/o Studies Minor

Latina/o Studies offers an undergraduate minor. The minor in Latina/o Studies requires 18 credit hours. One of those courses (3 hours) must include the required foundation courses, and the remaining courses (15 hours) can be

selected from the other areas of studies listed below.

Minor Requirements

3 Hours of Foundation Course

- LTST 1300 - Introduction to Latina/o Studies Credits: 3

3 Hours of History or Social Science

- LTST 2370 - Chicano History : Origins to 1900 Credits: 3
- LTST 2385 - Chicano History: 1900 to Present Credits: 3
- LTST 3800 - Chicanas/os in Contemporary Society Credits: 3

3 Hours of Culture, Arts, and Humanities

- LTST 2360 - Mexican American Literature Credits: 3
- LTST 3560 - Chicano Community Organizations Credits: 3
- LTST 4100 - U.S. Latina/o Theater Credits: 3
- LTST 4470 - Studies in Chicano Folklore Credits: 3

3 Hours of Gender, Race, Class, and Sexuality

- LTST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 3200 - Perspectives in Chicana Studies Credits: 3
- LTST 4650 - Women, Gender & Migration Credits: 3
- LTST 4675 - U.S. Women of Color Credits: 3

6 Hours of Electives

(or any courses listed above not yet taken)

- LTST 2060 - Special Topics in: Credits: 3
- LTST 3080 - Spanish Language in the USA Credits: 3
- LTST 4485 - USLatino Diaspora Credits: 3
- LTST 4496 - History of Mexico Credits: 3
- LTST 4975 - Independent Studies Credits: 1-3
- LTST 4990 - Topics in Chicano Studies Credits: 1-3

Literary Studies Minor

Focuses on the study of literature, media, and culture. Courses address texts from various historical periods and regions and the work of a diverse range of voices.

Requirements

- ENGL 2025 - Introduction to English Studies Credits: 3

Historical Period Classes: 6 Hours

Take any 2 of the following historical period courses:

- ENGL 2425 - Literatures in English I Credits: 3

- ENGL 2430 - Literatures in English II Credits: 3

- ENGL 2435 - Literatures in English III Credits: 3

- ENGL 2440 - Rhetoric & Writing Credits: 3

- ENGL 2340 - Native American Culture and Literature Credits: 3

- ENGL 2350 - Introduction to African American Literature Credits: 3

- ENGL 2360 - Mexican American Literature Credits: 3

- ENGL 3200 - Topics in: Medieval Literature Credits: 3

- ENGL 3300 - Topics in: Renaissance Literature Credits: 3

- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3

- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3

- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Upper Division Literature Courses: 9 Hours

Take 3 additional upper-division literature courses. Electives cannot be used for both the Historical Period requirement and this requirement. Please consult with department for options beyond this list.

- ENGL 3100 - Tribal Literatures of the Great Plains Credits: 3

- ENGL 3150 - World Literature Credits: 3

- ENGL 3200 - Topics in: Medieval Literature Credits: 3

- ENGL 3300 - Topics in: Renaissance Literature Credits: 3

- ENGL 3330 - Global Shakespeare in Performance Credits: 3

- ENGL 3340 - Philosophy in Literature Credits: 3

- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3

- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3

- ENGL 3600 - Topics in: 20th Century Literature Credits: 3
- ENGL 3610 - Non-Western Women Writers Credits: 3
- ENGL 3710 - Gender: Humanities Focus Credits: 3
- ENGL 4080 - Film Genre Studies (TOPIC) Credits: 3
- ENGL 4070 - Film Directors: Credits: 3
- ENGL 4090 - Film and Religion Credits: 3
- ENGL 4230 - Greek Tragedy Credits: 3
- ENGL 4270 - Classical Epic Poetry Credits: 3
- ENGL 4450 - African American Novel Credits: 3
- ENGL 4455 - Slavery and Freedom Credits: 1-4
- ENGL 4460 - American Indian Literature Credits: 3
- ENGL 4470 - Studies in Chicano Folklore Credits: 3
- ENGL 4480 - Regional Literature of the US: The West Credits: 3
- ENGL 4600 - Studies in (TOPIC) Credits: 1-6
- ENGL 4640 - Studies in Emerging Fields and Approaches Credits: 3
- ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3

Marketing Communication Minor

The marketing communication minor is combination of skills acquired in the marketing and communication fields. It is only available to College of Business or Communication and Journalism majors.

Required for all Minors

- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- COJO 3300 - Advertising in the Media Credits: 3
- COJO 3310 - Public Relations Credits: 3

Emphasis

COJO Emphasis

(to be taken by non-COJO majors):

Choose Three Courses from the Following: 9 Hours

- COMM 2100 - Media Writing Credits: 3 (Required in this emphasis and prerequisite to COJO 3300 and COJO 3310)
- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3200 - Graphics of Communication Credits: 3
- COJO 3480 - Internship Credits: 1-12 (Prerequisite 9 hours of COJO, 3 credits can apply toward minor)
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4040 - Digital Video Production Credits: 3 (Prerequisite 9 hours of COJO)
- COJO 4310 - Public Relations Techniques Credits: 3 (Prerequisite COJO 3310)

Marketing Emphasis

(to be taken by non-College of Business majors):

Choose Three Courses from the Following: 9 Hours

- MKT 4240 - Consumer Behavior Credits: 3 (Required in this emphasis)
- MKT 4520 - Marketing Research and Analysis Credits: 3
- MKT 4540 - International Marketing Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3
- MKT 4910 - Topics in Marketing Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3

Total: 21 Hours

Additional Information

Students seeking a minor must have 15 hours exclusive to the minor and not used in the major.

Metalsmithing Minor

The Metalsmithing Minor introduces students to the discipline of Metalsmithing in a 21 credit hour sequence.

Required Courses: 12 Hours

- ART 1130 - Foundation: Color Theory Credits: 3

OR

- ART 1005 - Drawing I Credits: 3
- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2350 - Metalsmithing I Credits: 3
- ART 3350 - Metalsmithing II Credits: 3

Studio Elective Courses in Metalsmithing: 6 Hours

- ART 4355 - Metalsmithing III Credits: 3
  required
- ART 4360 - Metalsmithing: Special Topics Credits: 3
  required

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3
  OR
- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Middle East/North Africa Minor

For the purposes of this minor, we define Middle East/North Africa loosely, to include the peoples, languages, religions and heritages of the wide swath of present-day states from Morocco (west) to Iran (east), and from Turkey (north) to Yemen (south), from ancient times to modern times. This proposal is for a "stand-alone" minor, which can be fulfilled by any UW student in any college, any major.

General Information

- All students must complete a prerequisite of two terms of a relevant Middle East language such as Arabic, Hebrew, Persian (Farsi) or Turkish, or demonstrate proficiency at the one-year level. Students then complete 15-16 credit hours with grade of "C" or higher.
- Students must maintain a 2.0 GPA to complete the Minor.
- Although Arabic is the only Language formally offered at UW, instruction in Hebrew for academic credit is at times available; students may also provide evidence of language proficiency of a minimum equivalent to a 0+ level on the

ILR scale, indicating basic familiarity with the language.

- Students who are considering the Minor would typically need to begin planning for this during their Freshman or Sophomore years.
- Pre-existing knowledge of a MENA language, however, would allow for all requirements of the MENA minor to be completed in just two academic years.

Arabic Language & Culture Track

Language prerequisites to Minor

(8 credits, does not count toward minor)

- ARBC 1010 - First Year Arabic I Credits: 4
- ARBC 1020 - First Year Arabic II Credits: 4

Language courses for the minor, required

- ARBC 2030 - Second Year Arabic I Credits: 4
- ARBC 2040 - Second Year Arabic II Credits: 3
- ARBC 3050 - Modern Arabic and its Dialects Credits: 3
- ARBC 3060 - Arabic Writing Credits: 3

Mandatory semester language study abroad or equivalent

Minimum of 3 credits must be from MENA language study abroad in a MENA country. For students that cannot travel abroad, this requirement may be fulfilled by participation in a domestic language immersion program (e.g. Concordia College's Language Villages, among others)

Required Elective course - 3 credits

- HIST 3220 - History of the Modern Middle East Credits: 3

OR

- RELI 3220 - History of the Modern Middle East Credits: 3
- INST 4990 - Topics: Credits: 1-6

*Current Issues in the Arab World
*US Foreign Policy in the Middle East

- POLS 3270 - Governments and Politics of the Middle East Credits: 3
- RELI 2490 - Special Topics in Religion Credits: 1-3

Total number of credits: 16

Middle East/North Africa Studies Track

Language Prerequisite to the Minor

(credits for this do not count toward minor)

- ARBC 1010 - First Year Arabic I Credits: 4
- ARBC 1020 - First Year Arabic II Credits: 4
- LANG 1010 - First Semester in (TOPIC) Credits: 1-4

*for Hebrew or other Middle Eastern language

- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

*for Hebrew or other Middle Eastern language;

Required Content courses

- RELI 3220 - History of the Modern Middle East Credits: 3

OR

- HIST 3220 - History of the Modern Middle East Credits: 3

- POLS 3270 - Governments and Politics of the Middle East Credits: 3

Distributed requirements

Middle East/North Africa art - 3 credits

One course focused on Middle East/North Africa art

- ART 3002 - Special Topics In: Credits: 3
- ART 3720 - Art and Architecture of Medieval Islam Credits: 3
- ART 4790 - Art Seminar Credits: 1-3

History Focus - 3 credits

One additional course with a focus on History (other than HIST 3220), any period with at least 50% MENA content - must be approved by MENA Studies Program Director.

Electives - 3 credits

- Middle Eastern language study beyond pre-req level, such as ARBC 2030 and above.
- Study abroad in the Middle East: Faculty-Led study abroad courses or intensive or semester courses focused on Middle Eastern languages, cultures, politics, etc.
- Courses from the full list below.

Total Credits - 15

Museum Studies Minor

The Museum Studies Minor introduces students to the discipline of Museum Studies. The total credit requirement varies.

Museum Studies Core: 12 Hours

- ART 2070 - Introduction to Museology Credits: 3
- ART 2075 - Museology II Credits: 3
  Cross-listed with: ANTH 2075, AMST 2075, HIST 2075

Related Skills - 3 Hours

3 credits to be taken from one of the following courses:

- ENGL 4075 - Writing for Non-Profits Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3

Internship - 3 Hours

3 credits at an Internship:

- ART 4078 - Museum Studies Minor Internship Credits: 3
  Cross-listed with: ANTH 4078, AMST 4078, HIST 4078

Methods Core: 6 Hours

Two 3-credit courses must be chosen from the following options:

- AMST 2400 - Introduction to Historic Preservation Credits: 3
- AMST 4300 - American Culture and the Public Sector Credits: 3
- AMST 4900 - Field Studies in American Culture Credits: 1-4
- ANTH 3310 - Introduction to Anthropology Research Methods Credits: 3
- ANTH 3300 - Ethnographic Methods in Anthropology Credits: 3
- ANTH 4020 - Seminar Credits: 3-6
- ANTH 4190 - Public Archaeology Credits: 3
- ENTO 4684 - Classification of Insects Credits: 4

- ART 4790 - Art Seminar Credits: 1-3
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 4113 - Geological Remote Sensing Credits: 4
- GEOL 4717 - Field Course in Geology Credits: 1-8
- HIST 2050 - Introduction to Public History Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- HIST 4030 - Senior Capstone Seminar Credits: 3
- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3

Elective Courses: 3 Hours

Students will choose courses from the elective list in conjunction with their advisor, based on their area(s) of interest. Additional courses listed in the museum studies and methods cores can be chosen as electives. For a list of electives, go to www.uwyo.edu/museumstudies.

Cultural Experience / International Fieldwork

Choose one of the following:

- Study Abroad/International Field School - students may enroll or participate in an approved study abroad course or program - credits may vary,

OR

- Foreign Language, Indigenous Language, or American Sign Language - 12 hours (12 hours of the same langauge **OR** 8 hours of one language and 4 hours of a second language).

Music Minor: 18 Credits

A **Minor in Music** consists of 18 credit hours intended to broaden a student's

musical skills as well as foster musical talents while they are pursuing a separate major. Acceptance to the minor is by audition only.

Required Courses

- **Ensembles**: Minimum 2 semesters required

Credits / Units: 2

- **Applied Lessons**: Complete at least 2 hours of Applied Lessons (2 semesters, minimum 30 minutes each)

Credits / Units: 2

- MUSC 0200 - Music Convocation Credits: 0

2 Semesters Required

- MUSC 1030 - Written Theory I Credits: 3
- MUSC 1035 - Aural Theory I Credits: 1
- MUSC 1040 - Written Theory II Credits: 3
- MUSC 1045 - Aural Theory II Credits: 1

Choose one of the following: Credits / Units: 3

- MUSC 2050 - Historical Perspectives in Music II Credits: 3

OR

- MUSC 2055 - Historical Perspectives III Credits: 3

Choose at least 3 credits from the following. Final credit hours for the minor must equal 18. Credits / Units: 3

- MUSC 3015 - Introduction to Global Music Credits: 3
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3

Native American and Indigenous Studies Graduate Minor

A graduate minor in Native American and Indigenous Studies is comprised of 12 hours with at least 6 hours at the 5000 level. It is expected that each graduate minor student and his/her graduate committee, at least one member of whom will be from NAIS, will determine the specific courses to be taken. It is recommended that one of the four classes selected be a 3 credit NAIS 5000 Independent Study. This class will provide a research experience in the discipline of Native American and Indigenous studies that may support a master's thesis or doctoral dissertation. The research expectation in NAIS can be satisfied by the 3 credit hour Independent Study and/or by the thesis or doctoral dissertation.

Students graduating with a graduate minor degree in Native American and Indigenous studies will be able to: 1) Make apparent in masters'-level research the interdisciplinary connections between Native American and Indigenous studies and the primary field of graduate study; 2) Integrate American Indian studies research methods with the research methods used in the primary field of graduate study; and 3) Demonstrate in writing the ability to understand a variety of subjects from a tribal perspective.

Native American and Indigenous Studies Minor

Students graduating with an undergraduate minor degree in NAIS will be able to: 1) Explain the concept of tribal sovereignty and how tribal sovereignty is both restricted and acknowledged by the federal trust relationship and by relationships with states; 2) Understand the development of modern tribal governments and their functions and importance in contemporary society; 3) Understand and appreciate the roles of

history, culture, and politics in the development of tribal world views, world views that relate to modern life and contemporary issues of concern for Native American and Indigenous peoples; 4) Identify historical, cultural, and political diversity and significance in Native oral traditions and written literatures; 5) Recognize stereotypes about Native American and Indigenous peoples and explain why these stereotypes were created and why they are sustained in modern society; and 6) Understand from the perspective of American Indian peoples, historical experiences and contemporary issues in North America.

Minor Requirements

The minor in Native American and Indigenous Studies requires 18 credit hours. Twelve credit hours must come from the following courses, three credit hours must be in either NAIS 1001 or NAIS 1350.

- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- NAIS 2210 - North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 2340 - Native American Culture and Literature Credits: 3
- Plus six hours of NAIS elective courses

Painting Minor

The Painting Minor introduces students to the discipline of Painting in a 24 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3

- ART 1130 - Foundation: Color Theory Credits: 3
- ART 2210 - Painting I Credits: 3

Studio Elective Courses in Painting: 9 Hours

Choose from 3000/4000-level painting courses including but not limited to:

- ART 3210 - Painting II Credits: 3
- ART 4210 - Painting III Credits: 3
- ART 4220 - Painting Topics Credits: 6
- ART 3250 - Watercolor Painting I Credits: 3
- ART 4250 - Watercolor Painting II Credits: 3
- ART 4655 - Outdoor Studio Credits: 3

- ART 3260 - Illustration I Credits: 3

OR

- ART 4260 - Illustration II Credits: 3

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Philosophy Minor

Philosophy provides the critical thinking, logical reasoning, and innovative problem-solving skills necessary to be competitive in law, business, academia, tech, arts, and government. It also explores what it is to live a meaningful life outside a career.

Course Requirements

A minor in Philosophy requires a minimum of 18 hours (6 courses) of philosophy.

- Of the 18 hours, 12 hours must be at 3000-level or above.
- Of the 18 hours, the remaining 6 hours (2 courses) may be at any level.

Only courses in which a grade of C or better has been earned count toward the 18-hour requirement.

Photography Minor

The Photography Minor introduces students to the discipline of Photrography in a 24 credit hour sequence.

Required Courses: 15 Hours

- ART 1110 - Foundation: Two Dimensional Credits: 3
- ART 1130 - Foundation: Color Theory Credits: 3
- ART 3510 - Printmaking I Credits: 3

OR

- ART 2112 - VCD I Visual Thinking Credits: 3
- ART 2265 - Introduction to Photography, Black and White Credits: 3
- ART 2255 - Introduction to Photography, Digital Credits: 3

Studio Elective Courses in Photography: 6 Hours

- Choose from 3000/4000-level photography courses

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Political Theory Minor

A minor in Political Theory offers an opportunity for interdisciplinary study.

Requirements

- POLS 2460 - Introduction to Political Philosophy Credits: 3
- POLS 3600 - American Political Thought Credits: 3
- POLS 4810 - Seminar in Political Philosophy Credits: 3
- 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 6 hours at the 3000-level or above.

Approved Political Theory Minor Courses

- POLS 2330 - Environmental Ethics Credits: 3
- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3050 - Athenian Democracy Credits: 3
- POLS 3610 - Classics in Environmental Thought Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4640 - Political Philosophy: Ancient and Medieval Credits: 3
- POLS 4650 - Political Philosophy: Modern Credits: 3
- POLS 4660 - Political Philosophy: Contemporary Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 2200 - Politics of Europe Credits: 3 (Max. 6)
- SOC 3900 - Social Theory

Printmaking Minor

The Printmaking Minor introduces students to the discipline of Printmaking in a 24 credit hour sequence.

Required Courses: 12 Hours

- ART 1005 - Drawing I Credits: 3
- ART 1110 - Foundation: Two Dimensional Credits: 3

OR

- ART 1130 - Foundation: Color Theory Credits: 3

- An upper division drawing course beyond ART 1005
- ART 3510 - Printmaking I Credits: 3

Studio Elective Courses in Printmaking: 9 Hours

- Choose from 3000/4000-level printmaking courses Credits: 9

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 24 Hours

Professional Writing Minor

Focuses on the modes of written, oral, and digital communication that working professionals use in their fields. Courses address topics like grant-writing, writing for the web, and publication editing.

Requirements

Foundations Course: 3 Hours

- ENGL 2035 - Writing for Public Forums Credits: 3

OR

- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (COM2)

Program Electives: 6 Hours

Take any 2 of the following courses:

- ENGL 4010 - Technical Writing in the Professions Credits: 3

- ENGL 4020 - Editing for Publication Credits: 3

- ENGL 4025 - Writing for the Web Credits:

- ENGL 4030 - Writing for Magazines Credits: 3

- ENGL 4075 - Writing for Non-Profits Credits: 3

- ENGL 4970 - Writing Internship Credits: 3

Other Electives: 6 Hours

Courses from any discipline that relates to professional writing; consult with a Professional Writing Minor advisor.

Professional Writing Minor Capstone: 3 Hours

- ENGL 4000 - 21st Century Issues in Professional Writing Credits:

Psychology Minor

Learn empirical approaches to understanding human behavior from biological, clinical, cognitive, developmental, neuroscientific, and social

psychological perspectives. Develop skills in critical thinking, communication, and scientific research.

Degree Requirements

A minor in psychology requires 18 semester hours in psychology. These must include PSYC 1000 or equivalent and 9 hours at the 3000- level or above. A grade of C or better is required in all minor courses.

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Public Law Minor

A minor in Public Law offers an opportunity for interdisciplinary study.

Requirements

- POLS 4100 - Constitutional Law: Institutional Powers Credits: 3
- POLS 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 3 hours at the 3000-level or above.

Approved Public Law Minor Courses

- POLS 2490 - Topics In: Credits: 1-3 (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 4090 - Anglo-American Jurisprudence Credits: 3
- POLS 4160 - Legal Philosophy Credits: 3
- POLS 4710 - Topics in Credits: 1-3 (dept. approval required) (Max. 6)

- AGEC 3400 - Agricultural Law Credits: 3
- COJO 4500 - Mass Communication Law Credits: 3
- CRMJ 2210 - Criminal Law Credits: 3
- CRMJ 3110 - Criminal Courts and Processes Credits: 3
- CRMJ 4140 - Criminal Legal Procedure Credits: 3

- CRMJ 4350 - Sociology of Law Credits: 3

OR

- SOC 4350 - Sociology of Law Credits: 3
- CRMJ 4540 - Gender and Crime Credits: 3

OR

- GWST 4540 - Gender and Crime Credits: 3
- CRMJ 4730 - Psychology and Law Credits: 3

OR

- PSYC 4730 - Psychology and Law Credits: 3
- HIST 4515 - American Legal History Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3

Public Relations Minor

Public relations is a minor that can help you in numerous fields. It is foundational for learning how to promote your organization and build relationships with many different publics to the benefit of all involved.

Required: 12 Hours

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 3310 - Public Relations Credits: 3
- COJO 4310 - Public Relations Techniques Credits: 3

Three of the Following: 9 Hours

- COMM 2400 - Introduction to Photography Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- COJO 3300 - Advertising in the Media Credits: 3
- COJO 3480 - Internship Credits: 1-12
- COJO 3530 - Multimedia Production Credits: 3
- COJO 4040 - Digital Video Production Credits: 3
- COJO 4200 - Visual Communication Credits: 3
- COJO 4230 - Special Topics in Mass Media Credits: 1-3 (no more than one)
- COJO 4250 - Advanced Organizational Communication Credits: 3
- COJO 4530 - Web Design Credits: 3

Total: 21 Hours

Additional Information

Students seeking a minor must have 15 hours exclusive to the minor and not used in the major.

Queer Studies Graduate Minor

Immerses students in advanced theoretical, historical and contemporary issues related to sexuality. Upon completion, students will be able to analyze systemic exclusion/inclusion, conduct independent interdisciplinary analysis through a queer studies lens, and apply queer theory to practice.

Requirements

A graduate minor in Queer Studies requires the completion of 12 credit hours, including AMST 5430 - Queer Theory/ GWST 5430 - Queer Theory , a minimum of 6 hours at the 5000+ level, and a capstone experience or independent study. For committee-based degree programs with queer studies content, it is expected that the student will include one committee member from Queer Studies faculty.

Faculty Advisory

An interdisciplinary, independent Queer Studies committee advises the program on curriculum, scheduling andcoordination. A faculty advisor is assigned to the student on declaration of the minor.

The faculty advisory committee for the minor includes:

- Rachel Watson, Director Queer Studies, Chemistry
- Ulrich Adelt, American Studies, African American & Diaspora Studies
- Ruth Olga Bjorkenwall, Politics, Public Affairs & International Studies
- Christine Boggs, Ellbogen Center for Teaching & Learning
- Danielle Renee Cover, Law
- Michelle Jarman, Disability Studies, Gender & Women's Studies
- Barbara Ellen Logan, History
- Jamie Snyder, Criminal Justice & Sociology
- Jennifer Tabler, Criminal Justice & Sociology

Please contact the program director, Rachel Watson (RWatson@uwyo.edu), for more information.

Queer Studies Minor

Immerses students in theoretical, historical and contemporary issues related to sexuality. Upon completion, students will be able to analyze systemic exclusion/inclusion, conduct independent interdisciplinary

analysis through a queer studies lens, and apply queer theory to practice.

Requirements

The Queer Studies minor requires the completion of 18 credit hours, including GWST 2000 - Introduction to LGBTQ/NS Studies and nine or more credits at the 3000-level or above. Each semester, students, in consultation with a queer studies advisor, will choose elective courses. A capstone project or internship is required but can be variable and determined in consultation with an advisor.

Faculty Advisory

An interdisciplinary, independent Queer Studies committee advises the program on curriculum, scheduling and coordination. A faculty advisor is assigned to the student on declaration of the minor.

The faculty advisory committee for the minor includes:

- Rachel Watson, Director Queer Studies, Chemistry
- Ulrich Adelt, American Studies, African American & Diaspora Studies
- Ruth Olga Bjorkenwall, Politics, Public Affairs & International Studies
- Christine Boggs, Ellbogen Center for Teaching & Learning
- Danielle Renee Cover, Law
- Michelle Jarman, Disability Studies, Gender & Women's Studies
- Barbara Ellen Logan, History
- Jamie Snyder, Criminal Justice & Sociology
- Jennifer Tabler, Criminal Justice & Sociology

Please contact the program director, Rachel Watson (RWatson@uwyo.edu), for more information.

Religious Studies Minor

The Minor in Religious Studies requires eighteen hours of relevant courses, all with a grade of "C" or higher. These should consist of courses as set out below:

Relevant Courses: 18 Hours

- RELI 1000 - Introduction to Religion Credits: 3
- RELI 4000 - Theories of Religion Credits: 3 (a capstone course)
- Twelve hours of courses focusing on issues in the study of religions, six of which should be at the 3000 level or higher. Occasionally, courses on religion are taught by outside departments as one-time opportunities. Students may propose these for inclusion in the major to the Religious Studies Program Director

Sculpture Minor

The Sculpture Minor introduces students to the discipline of Sculpture in a 21 credit hour sequence.

Required Courses: 6 Hours

- ART 1120 - Foundation: Three Dimensional Credits: 3
- ART 2310 - Sculptural Practices I Credits: 3

Studio Elective Courses in Sculpture: 12 Hours

Choose from the following:

- ART 3310 - Sculptural Practices: Cast Form I Credits: 3
- ART 3320 - Sculptural Practices: Mixed Media I Credits: 3
- ART 3330 - Sculptural Practices: Assembled Form I Credits: 3
- ART 3345 - Sculptural Practices: Special Topics Credits: 3

- ART 4310 - Sculptural Practices: Cast Form II Credits: 3
- ART 4330 - Sculptural Practices: Assembled Form II Credits: 3

Art History Survey Elective: 3 Hours

Choose one from:

- ART 2010 - Art History I Credits: 3

OR

- ART 2020 - Art History II Credits: 3

Total Credits: 21 Hours

Sociology Minor

Sociology is the study of the development, interaction, and behavior of organized human groups. Sociology provides powerful insights into the social processes that shape our lives, the problems we face, and the possibilities we can envision.

Requirements

The sociology minor requires a total of 18 sociology credits including SOC 1000. At least 9 of these 18 hours must be upper-division sociology credits.

Only grades of C or better can be counted toward the minor. Also, students seeking a minor must have 12 credit hours exclusive to the minor and not counted toward their major.

Spanish Minor

As a Spanish Minor, you will develop your speaking, listening, reading, writing, and presentational skills in Spanish. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

Electives

- 18 hours of electives in Spanish at the 2000-level or above (excluding SPAN 2030).
- Elective courses include:
- SPAN 3040 - Spanish Conversation Credits: 3
- SPAN 3070 - Intensive Spanish Abroad Credits: 3
- SPAN 3080 - Spanish Language in the USA Credits: 3
- SPAN 3200 - Spanish Culture and Civilization Credits: 3
- SPAN 3220 - Spanish-American Cultures in Context Credits: 3
- SPAN 4070 - Spanish Variation and Change Credits: 3
- SPAN 4080 - Spanish Advanced Grammar Credits: 3
- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 4200 - Introduction to Research Credits: 3

Total: 18 Hours

Theatre and Dance, Acting Performance Minor

This minor provides options for students only involved with Theatre training while pursuing other majors or concentrations within the Department.

Learning Outcomes

- **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, methods, and tradition of acting as a field.
- **Methods/Styles**: Students will develop familiarity with a wide range of methods, styles, and approaches to acting.
- **Production Experience**: Students will develop familiarity with the scope and process of being an actor in a rehearsal process.

- **Communication Skills**: Students will learn proper rehearsal communication and collaboration skills.

Rationale:

To provide an opportunity for students to Minor in Acting Performance, with 6 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Theatre training while pursuing other majors or concentrations within the Department.

Required: 6 Credits

- THEA 1100 - Acting I Credits: 3
  OR
- THEA 2100 - Acting II Credits: 3
- THEA 3710 - Acting III Credits: 3

Electives: 12-15 Credits

Choose from:

- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 3740 - Acting Styles Credits: 3
- THEA 3750 - Acting for the Camera Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 3950 - Advanced Speech and Dialects Credits: 3
- THEA 4710 - Acting IV Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2

Optional: Maximum of 2 Credit Hours of Dance

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Total Credit Hours: 18-21

Theatre and Dance, Dance Minor

Required Courses

- THEA 1021 - Academic and Professional Issues in Dance Credits: 1
- THEA 1040 - Production Crew I Credits: 0.5
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 4250 - Beginning Dance Composition Credits: 2 **

Ballet Technique: 5-6 Credit Hours

Four (4) Consecutive Classes in Ballet Technique.* Choose From:

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1420 - Beginning Ballet II Credits: 1
- THEA 2410 - Intermediate Ballet I Credits: 1.5
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 3410 - Adv/Intermediate Ballet I Credits: 1.5
- THEA 3420 - Adv/Intermediate Ballet II Credits: 1.5

- THEA 4010 - Advanced Ballet Credits: 1-3

Modern Technique: 5-6 Credit Hours

Four (4) Consecutive Classes in Modern Technique.* Choose from:

- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1440 - Beginning Modern II Credits: 1
- THEA 2430 - Intermediate Modern I Credits: 1.5
- THEA 2440 - Intermediate Modern II Credits: 1.5
- THEA 3430 - Adv/Intermediate Modern I Credits: 1.5
- THEA 3440 - Adv/Intermediate Modern II Credits: 1
- THEA 4030 - Advanced Modern Dance Credits: 1-3

Jazz or a Mix of Jazz and Tap Class: 2 Credit Hours

Two (2) Consecutive Classes in Jazz or a Mix of Jazz and Tap Classes.* Choose from: 2

- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1
- THEA 2450 - Intermediate Tap I Credits: 1
- THEA 2480 - Intermediate Jazz I Credits: 1
- THEA 3480 - Adv/Intermediate Jazz I Credits: 1
- THEA 3490 - Advanced Jazz I Credits: 1

Elective at 3000-4000 level: 2-3 Credit Hours

Suggested:

- THEA 4010 - Advanced Ballet Credits: 1-3
- THEA 4030 - Advanced Modern Dance Credits: 1-3
- THEA 4001 - Historical Dance Credits: 2

OR

- THEA 4200 - Dance History II Credits: 3 (COM3)

Minor Total 17.5-22.5

Theatre and Dance, Design, Technology, and Management Minor

This minor provides options for students only involved with Design, Technology, and Management while pursuing other majors or concentrations within the Department.

Learning Outcomes:

- **Core Knowledge:** Students will demonstrate competency in the foundational vocabulary, methods, and tradition of production and design. Students will be expected to analyze, evaluate, and revise their work based on their understanding of the core competencies of the production and design.
- **Methods/Styles:** Students will experience and develop an understanding of the production and design process by exposure to a wide range of methods, styles, and approaches. Projects will include theoretical and hands-on experiences.
- **Production and Educational Experience:** Students will develop an understanding of the scope and process of being a technician, manager, and designer as part of the production and design process. Students will create theoretical work and have the opportunity to collaborate through production assignments on realized work as part of the Department of Theatre and Dance's production season.

- **Communication Skills:** Students will learn and apply professional communication and collaboration skills as pertains to all aspects of the production and design process. Students will create portfolio quality examples of industry-specific documentation and design material that facilitates communication during the production and design process.

Rationale:

To provide an opportunity for students to minor in Design, Technology and Performance, with 6 credit hours required, and a menu of options in two areas for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Design, Technology, and Management while pursuing other majors or concentrations within the Department.

Required:

6.5 credits

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2145 - Costume Construction Credits: 3

Electives:

9 credits

Choose 3 design/technical management courses from this group

- THEA 1050 - Beginning Drawing and Painting Credits: 3
- THEA 2150 - Drafting for Design Credits: 3
- THEA 2250 - Computer Aided Design I Credits: 3
- THEA 2444 - Stage Management Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3

- THEA 2390 - Sound Design for Theatre and Dance Credits: 3
- THEA 3000 - Special Topics in Theatre Credits: 3
- THEA 3810 - Scene Design I Credits: 3 *
- THEA 3820 - Costume Design I Credits: 3

Electives:

5-6 credits

Choose 2 upper division design/technical management courses from this group

- THEA 3805 - Stage Lighting 2 Credits: 3
- THEA 3830 - Video Design for Live Theatre Credits: 3
- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 3890 - Lighting CADD Credits: 3 **
- THEA 4810 - Scene Design II Credits: 3
- THEA 4850 - Costume Design II Credits: 3

* THEA 2150, Drafting for Design is a prerequisite or consent of instructor.
**Course taught as needed.

Total credit hours: 20.5-21.5

Recommended Electives (independent studies):

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 4880 - Advanced Theatre Practice Credits: 1-2
- THEA 4990 - Research in Theatre Credits: 1-3

Theatre and Dance, Musical Theatre Performance Minor

This minor provides options for students only involved with Musical Theatre training while pursuing other majors or concentrations within the Department.

Learning Outcomes

- **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, methods, and tradition of musical theatre as a field. Students will learn the history and creation of the American musical and apply these traditions to contemporary practice.
- **Methods/Styles**: Students will develop and demonstrate an understanding of how music and song are used as a storytelling language.
- **Production Experience**: Students will develop and improve upon musical theatre performance skills, in both traditional and belt styles.
- **Communication Skills**: Students will learn practice and decorum for a professional rehearsal environment.

Rationale:

To provide an opportunity for students to minor in Musical Theatre Performance with 10 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. This minor provides options for students only involved with Musical Theatre training while pursuing other majors or concentrations within the Department.

Required:

10 Credits

- THEA 1100 - Acting I Credits: 3
  OR
- THEA 2100 - Acting II Credits: 3

- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2300 - MT Workshop: Scene Study Credits: 1
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 1360 - Fundamentals of Music for Theatre Majors Credits: 3

Electives:

8-11 Credit Hours

Choose from:

- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2170 - Voice and Speech for the Actor Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2340 - Musical Theatre Voice Lesson Credits: 1
- THEA 3300 - MT Workshop: Production Credits: 1-2
- THEA 3740 - Acting Styles Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2

Optional: Maximum of 2 Credit Hours of Dance

- THEA 1410 - Beginning Ballet I Credits: 1
- THEA 1430 - Beginning Modern I Credits: 1
- THEA 1450 - Beginning Tap Dance I Credits: 1
- THEA 1480 - Beginning Jazz Dance I Credits: 1

Total credit hours: 18-21

Theatre and Dance, Theatre Dramaturgy Minor

This minor provides options for students only interested in History and Dramaturgy while pursuing other majors or concentrations within the Department.

Learning Outcomes:

- **Core Knowledge**: Students will demonstrate competency in the basic vocabulary, structures, processes, and history of the field of dramaturgy.
- **Research/analysis**: Students will become well-versed in a range of research techniques and analytical lenses, as well as learning how to apply these concepts to script analysis and production critique.
- **Production Experience**: Students will develop familiarity with the scope and process of dramaturgy as it pertains to rehearsal and production participation.
- **Communication Skills**: Students will be able to communicate ideas clearly and effectively in writing, during meetings, and in rehearsal.

Rationale:

To provide an opportunity for students to minor in Theatre Dramaturgy, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. The Dramaturgy minor focuses on history and interpretation and is an area of interest in our theatre concentration. This minor provides options for students only interested in History and Dramaturgy while pursuing other majors or concentrations within the Department.

Required:

12 credits

- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3

- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 4930 - Theatre History I Credits: 3
- THEA 4940 - Theatre History II Credits: 3

Electives:

6-9 credits

Choose from:

- THEA 1100 - Acting I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2050 - Theatre Practice Credits: 1-2
- THEA 2060 - Introduction to Performance Studies Credits: 3
- THEA 2200 - Backgrounds of Dance Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 2185 - Period Style for Theatre I Credits: 3
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4200 - Dance History II Credits: 3
- THEA 4330 - History of American Musical Theatre Credits: 3
- THEA 4730 - Movement for Actors II Credits: 2
- THEA 4820 - Directing I Credits: 3
- THEA 4830 - Directing II Credits: 3
- THEA 4990 - Research in Theatre Credits: 1-3

Total credit hours: 18-21

Theatre and Dance, Theatre for Young Audiences Minor

To provide an opportunity for students to minor in Theatre for Young Audiences, with 12 credit hours required, and a menu of

options for maximum flexibility in reaching the 18-21 hour minor requirement.

Learning Outcomes

1. **Core Knowledge:** Students will demonstrate competency in the basic vocabulary, methods, and traditions of Theatre Education, Children's Theatre, and Theatre for Young Audiences as a field of study in research and practice. Students will practice an understanding of age appropriate material in educational, recreational, and theatrical settings.

2. **Methods/Styles:** Students will develop familiarity with a wide range of methods, styles, and approaches for children and youth theatre making. Students will gain understanding of a variety of teaching methods and practices for creative drama and theatre making.

3. **Production and Educational Experience:** Students will work with a variety of educational, community, and non-profit organizations where students engage in observing and creating theatre with children and youth. Student will gain experience in directing and producing creative drama and theatre for young audiences. Students will write educational materials effectively for the field of TYA such as lesson plans, study guides and other educational support materials.

4. **Communication Skills:** Students will articulate an advocacy position regarding the role of the arts in the lives of young people and voice a philosophy of teaching theatre/drama with children and youth. Students will develop and gain familiarity with the values and state/national standards in the creation of theatre with and for young people.

Rationale:

To provide an opportunity for students to minor in Theatre for Young Audiences, with 12 credit hours required, and a menu of options for maximum flexibility in reaching the 18-21 hour minor requirement. Currently we have a K-12 Theatre education endorsement within the College of Education. This program would remain, but the Theatre for Young Audiences minor can provide the courses in the major without the College of Education requirements. We feel this will be a popular minor for students wishing to work with youth in educational or community settings.

Required:

12 credit hours

- THEA 2005 - Creative Drama in the Classroom Credits: 3
- THEA 3600 - Teaching Theatre in Elementary or Secondary School Credits: 3
- THEA 3650 - Theatre for Young Audiences: Plays and Production Credits: 3
- THEA 4600 - Teaching Theatre Artists: Service Learning in the Community Credits: 3

Electives:

6-9 credit hours

Choose from:

- THEA 1100 - Acting I Credits: 3
- THEA 2100 - Acting II Credits: 3
- THEA 3710 - Acting III Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 1300 - Musical Theatre Workshop: Voice and Acting Credits: 2
- THEA 2220 - Stagecraft Credits: 3
- THEA 2155 - Movement for Actors I Credits: 2
- THEA 3910 - 20th Century Theatre Diversity Credits: 3
- THEA 4820 - Directing I Credits: 3

Total credit hours: 18-21

Theatre and Dance, Theatre Minor

Required Courses

*THEA 2150 is a prerequisite for THEA 3810

- THEA 1040 - Production Crew I Credits: 0.5
- THEA 1100 - Acting I Credits: 3
- THEA 1200 - Introduction to Design Credits: 3
- THEA 2010 - Theatrical Backgrounds Drama I Credits: 3
- THEA 2020 - Theatrical Backgrounds Drama II Credits: 3
- THEA 2040 - Production Crew II Credits: 0.5
- THEA 2220 - Stagecraft Credits: 3
- THEA 2230 - Stage Lighting I Credits: 3

OR

- THEA 3810 - Scene Design I Credits: 3 *

OR

- THEA 3820 - Costume Design I Credits: 3
- Plus 3 hours of electives in Theatre and Dance (must be 4000 level or above)

Graduate

American Studies, M.A.

The American Studies M.A. is an interdisciplinary cultural studies professional development degree. M.A. graduates work in public settings, including historic preservation organizations, historic sites, museums, collections, and other non-profit organizations.

Information

Graduate Study

The American Studies M.A. is an interdisciplinary professional development degree in a committed learning community that builds on students' research interests, accomplishments, experiences, and career goals working with American cultural contexts past and present. After the M.A., our alums seek further professional specialization in law, education, writing, library and information science, and other fields; pursue Ph.D.'s in academic careers in American Studies and other scholarly areas including ethnic studies, cultural geography, literature, religious studies, anthropology, history, ethnomusicology, among others; and work professionally in public settings, including historic preservation organizations, historic sites, museums, collections, and other non-profit, community or governmental organizations.

The M.A. is a 2-year program for students enrolled full-time, culminating in a major research project, either a "Plan A" thesis, or a "Plan B" non-thesis portfolio of work. We work frequently with part-time M.A. students to accommodate other demands on students' time. We encourage the development of emergent, innovative formats and project types as valuable contributions to contemporary American studies practice, relevant to a student's professional development plans.

Because American Studies is an international field with scholars all over the world, and the U.S. has significant impacts transnationally, M.A. Students from outside the U.S. are a regular part of our M.A. cohort, and we encourage our M.A. students to consider semester exchanges abroad. The Program also supports American Studies M.A. student and faculty participation in the annual biennial international conferences.

All M.A. students complete at least 15 credit hours in American Studies courses: 2 required theory and methods courses in the

Program (AMST 5500 and AMST 5510), and 3 graduate seminars in American Studies. The remainder of coursework - 12 credits for those completing a thesis, or 15 credits for those completing non-thesis portfolios - can be drawn from graduate-level coursework in any area of study. Most of our M.A. students complete 1-3 credit internships as part of their coursework, in public or organizational sites in Laramie, elsewhere in Wyoming or the U.S., and occasionally abroad as well. M.A. students' paths through their programs of study are as varied as our students.

Program Learning Outcomes

Students graduating with an M.A. in American Studies integrate their educational backgrounds, research and professional interests, and coursework at the M.A. level inside and outside American Studies, in individual programs of study, to professionally engage American cultural production and communities in preparation for professional work or advanced graduate study. Students earning the M.A. in American Studies, either completing a thesis or pursuing the non-thesis Plan B project, are prepared to:

- Interpret a variety of objects significant to the study of American cultures, including words, narratives, images, material objects, communities, built environments, identities, cross-cultural and/or international perspectives, continuities and discontinuities with the past in a range of cultural settings.
- Demonstrate professional competence in writing and speaking in error-free expository prose, authoritative oral presentation, insightful use of relevant source material reflecting critical reading skill, prose style commensurate with professional responsibility, and prose content commensurate with professional responsibility.
- Produce professional research for a well-defined community (scholarly, public, or an appropriate combination), by identifying and using primary sources, building approaches from a relevant matrix of secondary sources, and understanding scholarly traditions

within the field of American Studies that supports, expands, and connects research to professional goals.

- Make effective plans for advanced graduate study or professional employment by developing competencies listed above, including the opportunity to complete appropriate internship or field course work in an area of the student's professional plans.

Program Specific Admission Requirements

Those interested in graduate study are encouraged to contact the American Studies Program (307-766-3898 or amst@uwyo.edu) for more information.

Applicants to the M.A. program do not have to have prior majors in American Studies. The American Studies program does not require the GRE in applications to our M.A. program.

The application deadline for fall enrollment is March 1. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. In addition to an application, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

1. Statement of Purpose

2. A significant writing sample (usually a seminar paper or, for those coming from technical fields, a major report) that demonstrates potential for graduate study

3. Three letters of recommendation that assess the student's academic and research abilities

3. Transcripts from all undergraduate institutions and graduate programs

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should

also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Financial Aid

The American Studies M.A. is generously supported by endowment funds that allow us to award significant financial aid to M.A. students enrolled full time, through teaching, research, or community organization assistantship placements, as well as scholarship support as appropriate for students' own M.A. research.

Program Specific Degree Requirements

Graduate student must successfully complete 30 hours (for Plan B non-thesis) or 31 hours (for Plan A thesis) of graduate credit including the following:

Required Courses

(3 credit hours) AMST 5500 with a grade of B or better

(3 credit hours) AMST 5510 with a grade of B or better

(9 credit hours) graduate (5000) level AMST courses

Additional Requirements

Plan A thesis:

(12 credit hours) of graduate (5000) level courses in any field

(4 credit hours) of AMST 5960 - Thesis Research

Completion of a Master's Thesis

OR

Plan B non-thesis:

(15 credit hours) of graduate (5000) level courses in any field

Completion of a non-thesis project

Completion of exam

Anthropology, M.A.

M.A. students receive training in the four subfields of anthropology, complete original research, and develop skills which foster professionalism as related to their chosen field.

Plan A (Thesis)

Any M.A. student receiving a grade of C or less in two core classes will be expelled from the program.

If not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Core-Course Sequence

Completion, with a grade of "B" or better of a four core-course sequence. This sequence will consist of

- ANTH 5010 - 20th Century Anthropology Theory Credits: 3
- ANTH 5015 - Archaeological Theory Credits: 3
- ANTH 5020 - Biological Anthropology Credits: 3
- ANTH 5030 - Linguistic Anthropology Credits: 3

First semester (Fall):

Students will submit form to the graduate advisor and department head identifying their thesis advisor BEFORE the graduate assistant allocation meeting (mid-late November).

Second semester (Spring):

Students will work with their advisor to select their committee, which must be formed and on-file in the department office by the end of the semester. During the core classes' final exam periods, students give a presentation to departmental faculty which outlines the general ideas for their proposed thesis.

Second semester research presentations are assessed by all department faculty in attendance at the presentation and evaluations will be given to the student's advisors. It is expected that students will work closely with their advisors to rectify any problems before they complete their thesis prospectus in the third semester.

Third semester (Fall):

Working closely with their advisor and committee, students complete a detailed prospectus and gain approval from thesis committee for MA thesis topic.

Fourth semester (Spring):

Thesis is completed and is approved by thesis committee.

Plan B (Non-Thesis)

All requirements for a Plan A except thesis, if not completed prior to admission; two semesters of a single foreign language and one statistics course must be completed.

Anthropology, Ph.D.

Provides students with training so to achieve academic or non-academic career goals. Students have a dissertation experience that

results in professional publication. They will also have practical experience that will promote movement into careers.

Program Requirements

Student maintains a portfolio which documents teaching, internship, and research experience.

Students are encouraged to present papers at professional conferences and submit articles for publication throughout their tenure as a student. After admission to candidacy, the student is expected to research, write, and defend a dissertation based on original research (up to 48 credit hours). Students may either submit a single dissertation or a series of integrated publishable articles (30-40 pages each). The student's committee must approve this choice and decide on the number, length and content of the articles at the same time, usually at the committee hearing prior to the preliminary exams. For the final submission of the dissertation, the student must also complete an introduction and conclusion to contextualize and synthesize the integrated articles.

A Minimum of Six Content Courses: 18 Hours

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee.

First or Second Year:

Two additional courses in their first or second year

- ANTH 5880 - Professionalism Credits: 3

- ANTH 5890 - Teaching Anthropology

Credits: 3 (two-semester sequence)

Teaching Experience

Teaching experience, including standalone courses, after completion of the first semester of ANTH 5890 - Teaching Anthropology, as well as teaching assistance to UW faculty members.

Internship Experience Credits: 6-24 Hours

Participation in an approved internship experience (6-24 credit hours). Students pursue internships in state and federal agencies, museums, contract archaeology organizations, and other organizations that offer potential career experience.

Dissertation Proposal

Committee meeting and successful completion of a dissertation proposal.

Preliminary Exams

Preliminary exams take place after the completion of 18 hours of content courses. ANTH 5880, and Teaching and Learning in Anthropology (ANTH 5890, or other as designated), normally before the end of the second year. If a student does not receive a passing grade on the preliminary exam, it can be repeated once. Failure to pass the preliminary examination the second time results in termination from the anthropology program.

Highly Recommended

International experience is highly recommended but not required, e.g. pre-dissertation summer fieldwork.

Communication, M.A.

The master's in communication is an excellent degree to enrich your skills in writing, oral, and other forms of communication. There are two tracks: human and mediated communication. Several assistantships are available.

Admission Requirements:

Prospective students who are interested in this program are encouraged to contact the Director of Graduate Studies, Dr. Sandy Hsu (hsus@uwyo.edu), for more information and guidance regarding applying. To apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html): Statement of purpose, transcripts (a minimum of cumulative 3.0 GPA), three letters of recommendation, and writing samples. International applicants, who are not native English-speakers, must submit TOEFL, IELTS, or Duolingo scores.

If you want to be considered for a graduate teaching assistantship teaching either Public Speaking or Media Writing, the PR/Marketing graduate assistantship, the Wyoming Debate Union graduate assistantship, or the Rott research fellowship positions, please complete the online application by March 1. You must complete the GA application sent to you via email from the UW Office of Admissions (once you start an online application, UW Admissions will email you this document). You must also upload a resume to your online GA application. The resume should include a 3-5 minute video link that highlights and illustrates how you would approach being a teaching, marketing, or debate assistant. Those who apply for a research fellow must give a one-page summary about their research knowledge and capabilities and explain how their planned thesis or project is part of the journalism or media field.

Research Thesis: 31 Hours

31 hour program.

Students must complete an accepted research thesis approved by the student's thesis committee.

Students must complete a minimum of 27 credit hours and 4 hours of thesis credit. A minimum of 24 hours must be within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 3 hours of 4000-level coursework.

Students Must Complete

- COJO 5070 - Quantitative Research Methods Credits: 3
- COJO 5080 - Qualitative Research Methods Credits: 3
- COJO 5800 - Foundations of Communication and Journalism Credits: 3

One of the Following Theory Courses:

- COJO 5061 - Rhetorical Theory and Criticism Credits: 3
- COJO 5310 - Seminar in Mass Communications Credits: 3
- COJO 5540 - Seminar in Communication Theory Credits: 3

Professional Project: 33 Hours

33 hour program.

Students must complete an accepted professional project (e.g., documentary film, public relations and marketing plan, website) approved by the student's graduate committee. Students who chose the project option will be required to take 30 credit hours plus 3 hours of Graduate Project credits (for a total of 33 credit hours). A minimum of 27 hours must be taken within the department, with a maximum of 6 hours of independent study, 3 hours of internship

credit hours, and 6 hours of 4000-level coursework.

Students Must Complete

- COJO 5070 - Quantitative Research Methods Credits: 3
- COJO 5080 - Qualitative Research Methods Credits: 3
- COJO 5800 - Foundations of Communication and Journalism Credits: 3

One of the Following Theory Courses:

- COJO 5061 - Rhetorical Theory and Criticism Credits: 3
- COJO 5310 - Seminar in Mass Communications Credits: 3
- COJO 5540 - Seminar in Communication Theory Credits: 3

Creative Writing, M.F.A.

This fully-funded MFA program is dedicated entirely to prose. We teach a wide range of courses in fiction, nonfiction, and hybrid forms. We offer award-winning faculty and prepare graduates to release books with prominent commercial and small-press publishers.

Additional Information

M.F.A. students follow the guidelines for a Plan A thesis. Only those courses in which a grade of B or better has been earned may be applied to the graduate program of study. All courses must be taken for a grade unless offered for S/U only. No graduate credit is allowed for grades S and U.

The cumulative GPA must be at least 3.000 to receive a degree. Courses below 4000-level will not count toward the degree nor will they be figured in the GPA, although they will appear on the transcript.

A minimum of four Workshops (CW 5560) and/or Creative Writing Seminars (CW 5540) must be taken. These may be in any combination to reach the four-course total, typically for a total of 12-16 credit hours. We require a cross-genre component in that mix of courses.

Requirements

- Elective courses (typically taken for a total of 18 credit hours)
- ENGL 5900 - Practicum in College Teaching Credits: 1-3 taken in semesters teaching 1010, 1 credit per semester
- ENGL 5010 - Rhetoric and Composition: History, Theory, Practice Credits: 1-4 taken in the first semester teaching 1010, 3-4 credits (can be waived if a student has taken a comparable graduatelevel course in a prior program)
- Other electives: free to be taken in any UW program or department across campus
- Thesis Hours (5960): 4 credit hours

Total Credits: 36 Hours (Minimum)

Total credit hours must be a minimum of 36.

Criminal Justice Concentration within the M.P.A.

The Master of Public Administration Program with Criminal Justice Concentration is a professional degree designed for current and future leaders in the criminal justice field.

Plan B (Non-Thesis)

A criminal justice concentration within the master of public administration program is offered by the Criminal Justice program. Students wishing to enroll in the M.P.A. with criminal justice concentration must first be admitted into the M.P.A program. See

M.P.A. program admissions requirements for specific details.

The M.P.A. with criminal justice concentration curriculum consists of 39 credits including: 24 hours of core credit; criminal justice (4) courses; and one additional approved elective course. Students may complete the degree within two years full-time or approximately three-four years part-time. Courses are offered through distance education, which allows students to complete their degree in their community while working full-time.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/ electronic class discussion.

Students must maintain a graduate GPA of 3.000.

MPA Required Core Courses

Thirty-nine hours of graduate credit, to include:

- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5400 - Public Personnel Management Credits: 3
- PBAD 5410 - Administrative Behavior and Theory of Organization Credits: 3
- PBAD 5440 - Principles and Processes of Government Budgeting Credits: 3
- PBAD 5480 - Ethics In Government Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- PBAD 5684 - Empirical Analysis for Public Administration Credits: 3
- POLS 5690 - Capstone in Public Management Credits: 3

Criminal Justice Concentration Courses

Required Criminal Justice Concentration Courses

- CRMJ 5000 - Survey of Criminal Justice Credits: 3
- CRMJ 5100 - Public Policy and Crime Credits: 3

Elective Criminal Justice Concentration Courses

*Students with little or no administration and/or criminal justice professional experience must enroll in CRMJ 5500 as one of their electives.

(students must select two of the following courses)

- CRMJ 5151 - Crime Causation Credits: 3
- CRMJ 5280 - Comparative Criminal Justice Credits: 3
- CRMJ 5500 - Internship in Criminal Justice Credits: 3 *
- CRMJ 5540 - Gender and Crime Credits: 3
- CRMJ 5590 - Green Criminology Credits: 3
- CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law Credits: 3

Approved Elective Credit

One additional approved MPA elective course is required. For additional options, contact the MPA director.

- POLS 4052 - Federal Land Politics Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3

- POLS 5051 - Environmental Politics Credits: 3
- CNSL 5060 - Counseling Ethics and Professional Issues Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 5450 - Administrative Regulation Credits: 3
- PBAD 5460 - Public Administration and Law Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- PBAD 5500 - Internship in Public Administration Credits: 1
- EDRE 5530 - Introduction To Research Credits: 3
- POLS 5530 - USCongress Credits: 3
- PBAD 5540 - Public Policy Perspectives Credits: 3
- PBAD 5560 - Public Administration in Literature and Film Credits: 3
- POLS 5600 - Political Violence Credits: 3
- POLS 5685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- POLS 5810 - Seminar in Political Philosophy Credits: 3

English, M.A.

Advanced graduate study in English Studies. Students can select from one of three tracks: literary studies; rhetoric, composition, and writing studies; or public humanities.

Required Courses

The following courses are required for all concentrations:

- ENGL 5010 - Rhetoric and Composition: History, Theory, Practice Credits: 1-4 Taken first semester.

- ENGL 5530 - Modern Critical Theory and Practice Credits: 1-4 Taken second semester.
- ENGL 5960 - Thesis Research Credits: 1-12 Taken third semester in classroom.

Electives

Additional coursework can be taken from the following courses.

- ENGL 5000 - Studies In: Credits: 1-8
- ENGL 5020 - Public-Facing English Studies Credits: 1-4
- ENGL 5050 - Writing in Public Genres Credits: 1-4
- ENGL 5055 - Narrative and Storytelling Credits: 1-4
- ENGL 5061 - Rhetorical Theory and Criticism Credits: 1-4
- ENGL 5062 - Ancient Rhetorics Credits: 1-4
- ENGL 5063 - Feminist Rhetorics Credits: 1-4
- ENGL 5070 - Qualitative Methods in English Credits: 1-4
- ENGL 5071 - Qualitative Analysis Credits: 1-4
- ENGL 5072 - Topics in Technical Writing Credits: 1-4
- ENGL 5073 - Topics in Rhet-Comp & Tech-Com Credits: 1-4
- ENGL 5074 - Studies in Civic Discourse Credits: 1-4
- ENGL 5075 - Non-Profit Writing and Grants Credits: 1-4
- ENGL 5220 - Studies in Medieval Literature Credits: 1-4

- ENGL 5230 - Studies in English Renaissance Literature Credits: 1-4
- ENGL 5250 - Studies in Shakespeare Credits: 1-4
- ENGL 5270 - Studies in 18c English Literature Credits: 1-4
- ENGL 5280 - Studies in 19c English Literature Credits: 1-4
- ENGL 5290 - Studies in 20c English Literature Credits: 1-4
- ENGL 5310 - Early American Literature Credits: 4
- ENGL 5320 - Studies in 19c American Literature Credits: 1-4
- ENGL 5330 - Studies in 20c American Literature Credits: 1-4
- ENGL 5340 - Intellectual Currents in Modern American Literature Credits: 1-4
- ENGL 5350 - Global Literatures in English Credits: 1-4
- ENGL 5355 - Global Englishes Credits: 1-4
- ENGL 5360 - Literatures of Diversity Credits: 1-4
- ENGL 5455 - Slavery and Freedom Credits: 1-4
- ENGL 5520 - History of Literacy Criticism: Enlightenment and 19th Century Credits: 4
- ENGL 5600 - Research in Writing Studies Credits: 1-4
- ENGL 5830 - Victorian Women's Lives: Their Art, Literature, and Culture Credits: 3
- ENGL 5835 - Writing Program Administration Credits: 1-4

- ENGL 5880 - Studies in Modern Fiction Credits: 4

- ENGL 5885 - Studies in Popular Culture Credits: 1-4

- ENGL 5890 - Consumption, Markets, Cultures Credits: 1-4

- ENGL 5900 - Practicum in College Teaching Credits: 1-3

- ENGL 5975 - Independent Studies Credits: 1-4
- ENGL 5964 - Thesis Writing Workshop Credits:
- ENGL 5965 - Thesis Research II Credits: 1-3

Additional Requirements

The concentration insures coherence in each student's graduate program; breadth is insured by a distribution of courses. Much of each student's program is taken in courses outside the concentration.

Literary Studies. Working from a variety of perspectives, this concentration focuses on the study of literature and of other culturally significant texts and materials, including, for example, film, oral materials, and political documents.

Rhetoric, Composition, and Writing Studies. This concentration emphasizes scholarship on the production of discourse, broadly conceived, and may include a focus on classical, contemporary, or cultural rhetoric; post-secondary writing pedagogy and program administration; community and adult literacy; or other subjects related to the field of writing studies.

Public Humanities. Designed for students who wish to pursue professions that may span beyond traditional academic work, this concentration prepares graduates for careers in civic, nonprofit, and community-based cultural organizations that engage the humanities, contribute to social reform, and promote the public good.

Minimum coursework required for Plan A Thesis: 26 hours Minimum thesis hours required: 4 hours See program website for course offerings in a given semester. All coursework must be at the 5000-level. **Minimum coursework required for Plan B Thesis (students in online program only): 30 hours coursework minimum**

Plan A Thesis: a reading list exam and a Plan A thesis with oral defense. Students may write a traditional thesis, or they may assemble a public-facing thesis portfolio. See program website for more details about thesis options.

Plan B Thesis: coursework portfolio, including pedagogical reflection essay, with oral defense.

Program Specific Admission Requirements

Those interested in graduate study in this program, are encouraged to contact the Department of English (307-766-6452, englishdept@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required.
- A minimum of three letters of recommendation from:
- current or former college/university instructor(s) of the applicant; and/or
- current or previous professional supervisor(s) of the applicant.
- A 500-word statement of purpose that contains the applicant's:
- Professional/career goals.
- Educational goals, including planned concentration.
- Statement of how the graduate program will help the applicant attain their educational and professional goals.

- Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
- Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.
- Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).
- Any special skills or competencies (including any certifications or licenses).
- List of publications, prizes, awards, or other recognitions.
- List of service/volunteer activities.
- A 10-15 page critical writing sample.

Applications must be submitted by no later than February 1 to be considered for fall admission.

GRE scores are recommended for admission, but not required. The recommended minimum cumulative GRE score for admission is 291. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. Applicants must present evidence of a satisfactory background in English coursework.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. A minimum of 605 on the Paper-based TOEFL and of 5.0 on the TWE are required. Equivalent minimums = 101 on the Internet-based TOEFL with a minimum of 25 on the writing section or 7 on the IELTS. International students with Teaching Assistantships require proof of English speaking proficiency: Advanced-Mid on OPIc or TOEFL speaking score of 23, or IELTS speaking score of 6.5, or DuoLingo average score of 105. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Applicants to the online MA program whose undergraduate cumulative GPA is below 3.0 may be considered via the Professional Experience Track Admissions process if they have had at least two years of relevant

professional experience. For more information about Professional Experience Track Admissions, please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog.

English, Ph.D.

The English, Ph.D. with an emphasis in the public humanities is a doctoral degree that bridges the skills in research, rhetorical analysis, critical reading, and document design traditional to English studies with a deep investment in public advocacy and community engagement.

Degree Requirements

The English PhD in the Public Humanities will be a four-year degree requiring 36 hours coursework beyond their master's coursework, plus 8 additional hours of dissertation research.

Required Courses (20 coursework credits, 8 dissertation research credits)

Students take courses in three areas: 1) working in the classroom and beyond, 2) writing and storytelling, and 3) literature, rhetoric, and culture. 20 coursework credits and 8 thesis research credits are required.

Working in the Classroom and Beyond (12 credits)

- ENGL 5011 - Professional and Technical Communication: Histories, Theories, and Public Engagement Pedagogies. 4 Credit Hours
- ENGL 5020 - Public-Facing English Studies Credits: 1-4
- ENGL 5071 - Qualitative Analysis Credits: 1-4

Writing and Storytelling (4 credits; choose one)

- ENGL 5050 - Writing in Public Genres Credits: 1-4
- ENGL 5075 - Non-Profit Writing and Grants Credits: 1-4

Literature, Rhetoric, and Culture (4 credits; choose one)

- ENGL 5062 - Ancient Rhetorics Credits: 1-4
- ENGL 5063 - Feminist Rhetorics Credits: 1-4
- ENGL 5065 - Black American Rhetorics Credits: 1-4
- ENGL 5074 - Studies in Civic Discourse Credits: 1-4
- ENGL 5220 - Studies in Medieval Literature Credits: 1-4
- ENGL 5230 - Studies in English Renaissance Literature Credits: 1-4
- ENGL 5250 - Studies in Shakespeare Credits: 1-4
- ENGL 5270 - Studies in 18c English Literature Credits: 1-4
- ENGL 5280 - Studies in 19c English Literature Credits: 1-4
- ENGL 5290 - Studies in 20c English Literature Credits: 1-4
- ENGL 5310 - Early American Literature Credits: 4
- ENGL 5320 - Studies in 19c American Literature Credits: 1-4
- ENGL 5330 - Studies in 20c American Literature Credits: 1-4
- ENGL 5350 - Global Literatures in English Credits: 1-4
- ENGL 5360 - Literatures of Diversity Credits: 1-4
- ENGL 5455 - Slavery and Freedom Credits: 1-4
- ENGL 5885 - Studies in Popular Culture Credits: 1-4
- ENGL 5890 - Consumption, Markets, Cultures Credits: 1-4

Other Required Credits (12 credits)

- ENGL 5900 - Practicum in College Teaching Credits: 1-3
- ENGL 5960 - Thesis Research Credits: 1-12
- ENGL 5965 - Thesis Research II Credits: 1-3

Elective Courses (12 coursework credits; up to 8 credits outside English)

12 credits are available for electives, selected in consultation with the student's advisor and committee. At least 4 and up to 8 credits will be from units outside English. Electives aim to introduce methods and concepts from multiple disciplines and public-facing fields of study with both community and/or global relevance. When resources permit, students will be advised to enroll in courses such as the following, pending home-department approval and faculty interest.

- ENGL 5000 - Studies In: Credits: 1-8
- AMST 5020 - American Folklife Credits: 3
- AMST 5200 - Material Culture Credits: 3
- AMST 5300 - American Culture and the Public Sector Credits: 3
- AMST 5800 - Historic Preservation Credits: 3
- ENR 5870 - Graduate Seminar Credits: 1
- HIST 5630 - Seminar on Western American History Credits: 3
- HIST 5645 - Seminar on American Indian History Credits: 3
- LTST 5650 - Women, Gender & Migration Credits: 3
- NAIS 5110 - Foundations of American Indian Education Credits: 3
- NAIS 5141 - Instructional Methods of American Indian Education Credits: 3
- PBAD 5000 - Survey of Public Administration Credits: 3

- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- STAT 5220 - Advanced Design Credits: 3

History, M.A.

Wyoming's M.A. in history will open both professional and academic pathways. A student may pursue this degree as the final step in their educational journey or go on to pursue a doctoral degree and, eventually, a teaching or research position.

Program Specific Admission Requirements

General Regulations

The M.A. in History requires 18 hours of undergraduate history course
rules under which the student enters remain those governing the progr
enrollment. In accordance with university graduate regulations, studen
for fulfilling all requirements for the degree.

Application and Admissions

To be eligible for financial support in the form of a Graduate Assistan
materials by March 1. All other application materials must be receivec
1. The application process is now completely online. In addition to the
following documents via the UW Admissions website (www.uwyo.ed

- Three letters of recommendation that assess the student's academic
- Transcripts from all undergraduate institutions and graduate progra
- A writing sample of 10-20 pages, typically either a portion of a seni
- A statement of purpose of 250-500 words, explaining the applicant'

if you would like to be considered for a graduate assistantship.

Program Specific Graduate Assistantships

When applicants submit their materials to the program in History, th
a Graduate Assistantship. Anyone receiving financial support must b
student and must be making acceptable progress towards degree con
contingent on such progress. Support is not given for more than two

Requirements

Program Specific Degree Requirements for the History Master's Program are as follows:

Required Courses

Candidates for the Master of Arts degree are expected to complete the program in 2 years. Graduate Students are required to complete a minimum of 31 credit hours of graduate (5000) level courses. Students must complete 27 hours of coursework, of which at least 24 hours must be in History. Students will work with their advisor to plan the course of study that will include:

> (3 credit hours) HIST 5880 - History Theory
>
> (12 credit hours) 5000-level, non-dual-listed courses in HIST (excluding HIST 5880)
>
> (12 credit hours) Additional graduate-level course work, of which at least 9 credit hours must be in HIST courses.
>
> (4 credit hours) HIST 5960 - Thesis Research

Foreign Language

Students must demonstrate a reading knowledge of a foreign language appropriate to their research. In special cases, other relevant historical tools may substitute for the language requirement upon approval of the thesis adviser and the Graduate Coordinator. Generally, either of the following options may meet the language requirement:

- Passing a language exam administered by the Department of History. This must be completed by the end of the first year with the appropriate faculty.
- Completing the equivalent of the fourth semester of a language as offered at the University of Wyoming. All courses must be passed with a grade of C or better (may be taken pass/fail).

Thesis

- Graduate students will identify two "fields" of study, in consultation with their main advisor: one time/place field (such as Modern U.S. History), and one thematic field (such as Environmental History), both of which correspond to the student's thesis research.
- In the spring semester of the first year the student will publicly defend his/her thesis proposal, which must include a written research prospectus and bibliography.
- At the end of the second year the student will successfully defend the thesis before an approved Graduate Committee.

International Studies, M.A.

MA students will be able to pursue international, interdisciplinary research in order learn about global problems from a variety of historical, political, social, cultural, and economic perspectives.

Plan A (Thesis)

Students are encouraged to construct, with the adviser's approval, a program that focuses their own intellectual interests and career plans. To promote that end, students should be prepared to file a plan of study with the graduate adviser during the second semester of coursework.

No later than the second semester in residence, each student shall select a graduate committee to oversee his or her academic work. The committee will be chaired by the student's major professor and must have at least one member from outside of The School of Politics, Public Affairs, and International Studies. Students also will prepare a thesis proposal and give a presentation of their preliminary project before the International Studies faculty and complete a thesis prospectus defense with their graduate committee by the end of their second semester.

Students must pass an oral examination at the completion of their program. Normally,

examination will center on the thesis, but may also encompass coursework of the candidate.

Required Coursework

Advanced Theory Course

- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

Research Methods Course

- INST 5400 - International Social Science Research Methods Credits: 3

Additional Information

Students take the Plan A (thesis). Students must have a minimum of 26 hours of graded non-thesis coursework and 4 hours of thesis.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree in any major. Foreign students, who are non-native English speakers, must pass the Oral Proficiency Interview (OPI).

Program Specific Degree Requirements

Master's Program

Students must meet three requirements:

- Each student must take INST 5400.
- Each student must take INST 5200.
- Each student must demonstrate proficiency in a foreign language,

accomplished in the course of the program or from previous experience or coursework. Foreign language hours do not count toward the M.A. degree.
The program also offers a joint International Studies/Environment and Natural Resources degree. See www.uwyo.edu/sppais for specific degree requirements.

Music Education, M.M.

Each of the degree programs consists of 30 semester hours of work composed of the following elements:

Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:

Basic Music Core (11 Hours)

> *No more than 12 credits can be counted from 4000-level courses toward any graduate program of study.*

- MUSC 5310 - Music Research Methods Credits: 2

- Choose a total of at least THREE courses from the following (minimum 9 credits from the following two categories):
- **Upper-Division Music History** (3-6 Credits):
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 5320 - Advanced Seminar Credits: 2-6

- **Upper-Division Theory** (3-6 hours):
- MUSC 5035 - Advanced Theory Credits: 3
- MUSC 5340 - Advanced Composition Credits: 1-4
- MUSC 5350 - Advanced Analysis Credits: 3

Major Area Courses (12-15 Hours)

- EDRE 5530 - Introduction To Research Credits: 3
- MUSC 5760 - Music Education Seminar Credits: 2
- MUSC 5720 - Musical Supervision: Choral Credits: 2
- Music education electives Credits: 5-8

Thesis Requirement (0-4 Hours)

Plan A

Four hours (the thesis must be on a music education topic)

- MUSC 5960 - Thesis Research Credits: 1-12

Plan B

The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

- Plan B paper, plus extra courses Credits: 0

Electives (4 to 7 Hours)

Require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music Performance, M.M.

Each of the degree programs consists of 30 semester hours of work composed of the following elements

Plan B

To earn a Master of Music in Performance, students must complete the following requirements:

Basic Music Core (11 Hours Minimum)

> *No more than 12 credits can be counted from 4000-level courses toward any graduate program of study.*

- MUSC 5310 - Music Research Methods Credits: 2
- Choose a total of at least THREE courses from the following (minimum 9 credits from the following two categories):
- **Upper-Division Music History** *(3-6 Credits)*:
- MUSC 4315 - America's Ethnic Music Credits: 3
- MUSC 4330 - Undergraduate Seminar Credits: 3
- MUSC 4350 - History and Literature of Jazz Credits: 3
- MUSC 4651 - String Solo Literature Credits: 3
- MUSC 4490 - History of Rock and Roll Credits: 3
- MUSC 5320 - Advanced Seminar Credits: 2-6
- **Upper-Division Theory** (3-6 hours):
- MUSC 5035 - Advanced Theory Credits: 3
- MUSC 5340 - Advanced Composition Credits: 1-4
- MUSC 5350 - Advanced Analysis Credits: 3

Major Area Courses (16 Hours Minimum)

- MUSC 5480 - MUSC 5670 Private Lessons in major instrument or voice Credits: 8 minimum
- MUSC 5700 - MUSC 5890 Ensembles Credits: 2
- MUSC 5680 - Graduate Recital Credits: 2 A faculty jury must approve a recital given for credit one month prior to the performance. The faculty jury will determine the grade after the performance.
- MUSC 5390 - Performance Practice and Interpretation Credits: 2
- MUSC 5320 - Advanced Seminar Credits: 2-6
- MUSC 4*** - Pedagogy (instrument specific) Credits: 2

Requirement In Lieu of Thesis

Plan B paper, or 1-hour lecture-recital

Foreign Language Requirement

(voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.

Electives (0 to 3 hours)

Require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Political Science, M.A.

Political Science studies how states govern themselves and interact. Subfields include: American politics, comparative government, international relations, political philosophy, public law, and public administration.

Degree Requirements

This degree requires 30 hours of graduate credit.

Plan A (Thesis)

Graduate Credit

At least 30 hours of graduate credit, to include:

- At least 6 additional hours of coursework in political science.
- A maximum of 9 hours of coursework in disciplines other than political science.
- A minimum of 4 hours thesis research.
- A master's thesis demonstrating independent research, written under the supervision of the major professor.
- An oral examination conducted by the graduate committee covering all coursework and the thesis.
- No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.
- Students must maintain a graduate GPA of 3.000.
- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

And

- INST 5400 - International Social Science Research Methods Credits: 3

Plan B (Non-Thesis)

Graduate Credit

At least 30 hours of graduate credit, to include:

- At least 6 additional hours of coursework in political science.
- A maximum of 12 hours of coursework in disciplines other than political science.
- Plan B paper that reflects the quality but not scope of a master's thesis, written under the supervision of the major professor.
- An oral examination conducted by the graduate committee covering all coursework and the Plan B paper.

- No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.
- Students must maintain a graduate GPA of 3.000.
- INST 5200 - Graduate Proseminar in International Studies Credits: 3-6

And

- INST 5400 - International Social Science Research Methods Credits: 3

Psychology, Ph.D.

The Department of Psychology offers the doctor of philosophy in psychology with programs in clinical (APA accredited) psychology, social psychology, cognition/ cognitive development, and psychology and law.

Degree Requirements

minimum of 72 hours to include at least 42 hours of coursework.

Doctoral Programs

- Clinical Psychology
- Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Program Specific Admission Requirements

The deadline for receipt of all application materials is December 1.

We only admit students one time per year. Our graduate students begin their programs of study in the fall semester.

Although our graduate programs technically consist of separate master's and doctoral degree components, only students who are applying for, and who expect to complete, the doctoral program are considered for

admission. That is, we do not offer a terminal master's degree.

Application materials include the application, one to two page statement of purpose, undergraduate and graduate (if applicable) transcripts, curriculum vitae, and three letters of recommendation. An application fee of $50 is required.

Applications are evaluated based on the applicants' academic qualifications (e.g., undergraduate GPA, graduate GPA if applicable, course specific grades) and stated research and (if applicable) clinical interests. Particular attention is paid to the goodness of fit between the applicant's expressed research/clinical interests and the particular strengths and offerings of our program.

Our program does not employ a set of formal "cut-offs" with regard to any of the quantitative application elements (e.g., undergraduate/graduate GPA). Often a strong record in one area may make up for a weakness in another area. Applicants interested in information on the qualifications of admitted students should consult the student summary data (www.uwyo.edu/psychology).

Program Specific Graduate Assistantships

Applicants are considered for graduate assistantships at the time of admission. Graduate students typically receive some departmental financial support for the first four years.

Doctoral Programs

Clinical Psychology

Students complete a four-year, on-campus sequence of required courses covering core areas of psychology and clinical competency. In addition, the following are required: successful completion of a thesis, a preliminary comprehensive examination, a

dissertation, one summer clerkship, and a full year APA accredited internship.

Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Students complete course requirements in topics designated as core areas of psychology, a preliminary comprehensive examination, and a research-based dissertation.

Public Administration (MPA)

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics based program where complicated issues of administrative decision making are the hallmarks of professional life.

Degree Requirements

This degree requires 39 Graduate credits.

Admissions

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI).

Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:

- 24 hours of core credit,
- 15 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the

M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Current Core Courses

Thirty-nine hours of graduate credit, to include:

- PBAD 5000 - Survey of Public Administration Credits: 3
- PBAD 5400 - Public Personnel Management Credits: 3
- PBAD 5410 - Administrative Behavior and Theory of Organization Credits: 3
- PBAD 5440 - Principles and Processes of Government Budgeting Credits: 3
- PBAD 5480 - Ethics In Government Credits: 3
- PBAD 5510 - Public Policy and Program Management Credits: 3
- PBAD 5684 - Empirical Analysis for Public Administration Credits: 3
- PBAD 5690 - Capstone in Public Management Credits: 3

Approved Elective Credit

- POLS 4052 - Federal Land Politics Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3

- CRMJ 5000 - Survey of Criminal Justice Credits: 3
- POLS 5051 - Environmental Politics Credits: 3
- CNSL 5060 - Counseling Ethics and Professional Issues Credits: 3
- CRMJ 5100 - Public Policy and Crime Credits: 3
- CRMJ 5151 - Crime Causation Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- CRMJ 5280 - Comparative Criminal Justice Credits: 3
- POLS 5420 - Seminar In Public Administration Credits: 3
- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- POLS 5450 - Administrative Regulation Credits: 3
- PBAD 5460 - Public Administration and Law Credits: 3
- PBAD 5465 - Survey of the Nonprofit Sector Credits: 3
- CRMJ 5500 - Internship in Criminal Justice Credits: 3
- PBAD 5500 - Internship in Public Administration Credits: 1
- EDRE 5530 - Introduction To Research Credits: 3
- POLS 5530 - USCongress Credits: 3
- CRMJ 5540 - Gender and Crime Credits: 3
- PBAD 5540 - Public Policy Perspectives Credits: 3
- PBAD 5560 - Public Administration in Literature and Film Credits: 3
- CRMJ 5590 - Green Criminology Credits: 3
- POLS 5600 - Political Violence Credits: 3
- POLS 5685 - Program Evaluation and Policy Analysis Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- POLS 5810 - Seminar in Political Philosophy Credits: 3
- CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law Credits: 3

Public Administration (MPA/JD)

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics based program where complicated issues of administrative decision making are the hallmarks of professional life.

Admissions

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI).

Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:

- 24 hours of core credit,
- 15 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Current Core Courses

- POLS 5690 - Capstone in Public Management Credits: 3

Academic Regulations

- A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty (see Academic Regulations). In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in the J.D. program. For additional information regarding these joint degree programs, contact the College of Law or the joint program of interest.
- Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.
- Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course.
- Students must maintain a graduate GPA of 3.000.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

Spanish, M.A.

As a Spanish Masters Student, you will develop your speaking, listening, reading, writing, and presentational skills in Spanish. You will gain a better understanding of perspectives and experiences of Spanish speaking cultures.

Program Specific Admission Requirements

Those interested in graduate study in this program, are encouraged to contact the Department of Modern & Classical Languages (307-766-4176, languages@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit the following via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html):

- Official transcripts of collegiate work completed, including any post-baccalaureate coursework. U.S. Military training transcripts that show neither grades nor degrees awarded may be submitted but are not required.
- A minimum of three letters of recommendation from:
- current or former college/university instructor(s) of the applicant; and/or
- current or previous professional supervisor(s) of the applicant.
- A statement of purpose that contains the applicant's:
- Professional/career goals.
- Educational goals.
- Statement of how the graduate program will help the applicant attain their educational and professional goals.
- Explanation for why the applicant would choose the University of Wyoming for graduate study.
- A full resume that contains:
- Record of all post-secondary academic work, including the names of the institutions, dates of attendance, and degrees earned.

- Record of all professional employment including dates for each (including any military service, AmeriCorp, PeaceCorp, Fulbright, etc. work experience).
- Any special skills or competencies (including any certifications or licenses).
- List of publications, prizes, awards, or other recognitions.
- List of service/volunteer activities.

The preferred application deadline is January 31 to be considered for fall admission, but applications will remain open until all available positions are filled.

GRE scores are not required. A minimum of a 3.0 undergraduate cumulative GPA is required for admission. Applicants must present evidence of a satisfactory background in Spanish coursework or near-native fluency in the Spanish language.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. International students with Teaching Assistantships require proof of English speaking proficiency: Advanced-Mid on OPIc or TOEFL speaking score of 23, or IELTS speaking score of 6.5, or DuoLingo average score of 105. Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements. Please see more information in the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog.

Required Courses

Program Specific Degree Requirements

A total of 27 graduate-level course hours are required.

Plus 4 thesis hours.

- SPAN 4200 - Introduction to Research
Credits: 3

- SPAN 5900 - Practicum in College Teaching Credits: 3
- One 5000 level course in SPAN Linguistics Credits: 3
- One 5000 level course in SPAN Literature Credits: 3
- Spanish elective credits at the graduate level Credits: 15

    One 5000 level course (3 credits) can be taken outside the department with the approval of the thesis advisor or the graduate advisor

    Graduate-level courses include:

- SPAN 5070 - Spanish Variation and Change Credits: 3
- SPAN 5080 - Spanish Advanced Grammar Credits: 3
- SPAN 5090 - Spanish Phonetics and Phonology Credits: 3
- SPAN 5100 - Hispanic Thought Credits: 3
- SPAN 5110 - Peninsular Spanish Literature Credits: 1-3
- SPAN 5120 - Spanish American Literature Credits: 1-3
- SPAN 5130 - Masterpieces of Spanish Renaissance Literature Credits: 3
- SPAN 5140 - Masterpieces of Spanish Baroque Literature Credits: 3
- SPAN 5150 - Spanish Romanticism Credits: 3
- SPAN 5160 - Graduate Readings Credits: 1-5
- SPAN 5170 - Special Problems Credits: 1-2
- SPAN 5180 - Advanced Cultural Studies in Hispanic Lit/Media Credits: 3
- SPAN 5190 - 20th and 21st Century Spanish- American Texts Credits: 3
- SPAN 5260 - The Realist Novel in Spain Credits: 3
- SPAN 5990 - Internship Credits: 1-12

Total: 31 Hours

Certificate

American Studies Certificate

The certificate program allows students to choose from undergraduate and graduate courses in American Studies, literature, geography, music, art, history, philosophy, sociology, folklore, anthropology, Native American and Indigenous studies, political science, environmental studies, and media studies.

The program encompasses two semesters of full time work: a total of at least 24 semester hours, or approximately 8 courses. Of these, 6 credit hours (2 courses) must be selected from the following list:

Requirements

- AMST 2010 - Introduction to American Studies Credits: 3
- Any AMST course at the 4000- or 5000-level Credits: 3
- An additional 18 hours (6 courses) are chosen in consultation with an American Studies faculty adviser. The final 3 credit hours, completed during the summer months, are devoted to an internship (AMST 4970) or field experience in American culture (AMST 4900).

Arts Entrepreneurship Certificate

The Arts Entrepreneurship Certificate includes all performance and visual arts on campus and benefits students by creating learning labs which incubate collaborative work across disciplines, strengthening ties between artistic communities in Wyoming, and preparing UW's students to work in the rapidly changing arts job market.

Choose one of the following:

- ART 4600 - Professional Practices and Strategies Credits: 3

OR

- MUSC 4000 - Careers in Music Credits: 2

OR

- THEA 3850 - Design and Technology Seminar Credits: 2

OR

- THEA 4720 - Auditioning and Professional Issues Credits: 3

OR

- THEA 4700 - Professional Seminar in Dance Credits: 1

Seminar

- ART 4002 - Arts Entrepreneurship Seminar Credits:

Entrepreneurial Mindset

- ENTR 2400 - Entrepreneurial Mindset Credits: 3

Choose one of the following:

- MGT 2100 - Management and Organizations Credits: 3

OR

- MKT 2100 - Introduction to Marketing Credits: 3

Audio Technology Certificate: 12 Credits

The Audio Technology Certificate provides a basic understanding of audio principles and practical hands-on experience that allows one to enter the commercial music work force with a marketable skill set. Students will learn how to record and manipulate recorded sounds as well as provide live sound reinforcement for live concerts or events. A certificate may be pursued on its own or in conjunction with any university degree program.

Required Courses

- MUSC 4360 - Fundamentals of Audio for Music Production Credits: 3
- MUSC 4365 - Recording Art and Technology Credits: 3
- MUSC 4370 - Live Sound Reinforcement Credits: 1
- MUSC 4990 - Topics in: Credits: 1-12
  Audio Technology Practicum/Internship **Credits / Units:** 3

Teachers of American Indian Children (TIAC) (Teaching) Endorsement/UW Certification

Through Distance Education, a Teachers of American Indian Children (TAIC) Endorsement / Graduate Certificate can be earned. This non-degree graduate program certifies that those who complete its five specialized courses possess the attitudes, knowledge, and competence necessary to effectively teach American Indian Children. Upon completion, students receive official recognition of their achievement on their transcripts and an official certificate. Visit the Distance Education Degrees and Programs Website www.uwyo.edu/distance/ for more information. All courses are cross-listed with NAIS and EDCI.

An interdepartmental Native American and Indigenous Studies Advisory Committee guides the program's development. The director advises students selecting the NAIS studies major or minor.

Complete information about the Native American and Indigenous Studies undergraduate major, undergraduate minor, and graduate minor is available in the NAIS Program office and on the program Website.

Endorsement/Certificate

Art Entrepreneurship Certificate: 12 Credits

This certificate provides a basic understanding of marketing principles specific to the arts with practical hands-on experience that allows one to enter the workforce with a marketable skill set in the areas of arts promotion and management.

Required Core Courses (All Emphases)

- MUSC 4002 - Arts Entrepreneurship Seminar Credits: OR, TO
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- Choose one of the following:
- MGT 2100 - Management and Organizations Credits: 3

OR

- MKT 2100 - Introduction to Marketing Credits: 3

- **The internships below are variable, 1-2 credits, depending on department. Please see individual advisors for exact hours.**

Music Emphasis

- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4005 - Internship in Music Business Credits: 1

Visual Arts Emphasis

- ART 4600 - Professional Practices and Strategies Credits: 3
- ART 4400 - Internship Credits: 1-3

Theater and Dance: Dance Emphasis

- THEA 4700 - Professional Seminar in Dance Credits: 1

- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Theater and Dance: Design/Tech Management Emphasis

- THEA 3850 - Design and Technology Seminar Credits: 2
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

Theater and Dance: Performance Emphasis

- THEA 4720 - Auditioning and Professional Issues Credits: 3
- THEA 4975 - Theatre/Dance Internship Credits: 1-12

College of Business

Scott Beaulier, Dean
Phone: (307)766-4194 FAX: (307)766-4028
Peter M. and Paula Green Johnson Student Success Center (307) 766-8249

The College of Business prepares students for careers by providing quality education in business disciplines, creating, and disseminating knowledge, and assisting in Wyoming's economic development. The College of Business expects the highest level of integrity from our administration, faculty, staff, students, and alumni.

The College of Business grew from its roots established in 1899 when the UW School of Commerce was founded. While the programs offered have changed over the years, the college remains passionately committed to academic excellence and positive student experiences.

The college has three academic departments: accounting and finance; economics; and management and marketing. The college also houses the College of Business Peter M. and Paula Green Johnson Student Success Center (GJSSC) which is instrumental in maintaining the college's link with the business world.

These units are committed to preparing all College of Business students to enter our rapidly changing world. Successful graduates are fully prepared to compete in their chosen professions or in graduate school. More importantly, they are well-educated individuals prepared to live fulfilling lives, and to meet the challenges presented by the complex ethical, moral, and cultural contexts of our times.

College of Business Learning Outcomes

The College of Business expects that its graduates:

- Will be competent in their field of study
- Will be effective problem solvers
- Will be ethical
- Will be professional
- Will be effective communicators

AACSB Accreditation

The business degree programs offered by the College of Business are accredited by AACSB-International. AACSB standards ensure that College of Business students are provided with comprehensive, high-quality, well-rounded degree programs. The "Common Body of Knowledge" as described on the following pages has been developed to meet the AACSB accreditation standards.

A minimum of 50% of COB courses required for the major must be taken from the degree-awarding institution.

Programs of Study

Undergraduate Degrees

BSB - Bachelors of Science in Business
BSE - Bachelors of Science in Economics

The Majors are as follows:

- Accounting, B.S.B. (BSB-ACCT)
- Business Economics, B.S.B. (BSB - CBEC)
- Economics, B.S.E (BSE - ECON)
- Entrepreneurship, B.S.B (BSB - ENTR) ·
- Finance, B.S.B (BSB - FIN)
- Management, B.S.B. (BSB - MGT)
- Marketing, B.S.B. (BSB - MKT)
- Professional Sales, B.S.B. (BSB - SELL

The Minors are as follows:

- Banking and Financial Services Minor
- Blockchain Minor
- Data Analytics Minor
- Economics Minor
- Entrepreneurship Minor (for nonbusiness students only)
- Hospitality Business Management Minor
- Leadership Minor
- Professional and Technical Selling Minor
- Real Estate Minor

Graduate Degrees

Master of Science
Accounting, M.S.
Economics, M.S.

Business Administration, M.B.A.

Business Administration, Online, M.B.A.

Doctor of Philosophy
Economics, Ph.D.
Marketing and Management, Ph.D.

Certificate Programs
Certified Financial Planning Certificate (Graduate)
Energy Business Certificate (Graduate)

Student Services

Academic Advising

All College of Business undergraduate students are advised by professional academic advisors in the College of Business Peter M. and Paula Green Johnson Student Success Center. Advising can be reached by e-mail (success@uwyo.edu) or by phone (307) 766-2063.

Career Services

The Career Services unit connects students and employers in ways that lead to meaningful experiences and job opportunities. Students also can apply for local, national, and international internships starting their first year and may receive credit for their work. Networking with employers is highly encouraged and offered through a series of fairs, events, and in-class projects. One-on-one assistance and workshops are also available to students for things such as: internship or job searching; resume creation, review, or targeting; and career coaching or counseling. Individual appointments may be scheduled by email (success@uwyo.edu) or by phone, (307) 766-4159.

Student Responsibilities

College of Business students are responsible for knowing and meeting requirements for graduation. Students have a variety of tools at their disposal, including their degree evaluation and the catalog to check these requirements, and can utilize their academic advisor throughout the year for questions and clarifications.

All students must have already completed any prerequisites listed, including having the appropriate class standing. Students not meeting the prerequisites are identified and administratively dropped from those courses each semester.

Requirements for the Bachelor of Science Degree

I. University Studies Requirements:

All students seeking a bachelor's degree must satisfy the University Studies Program (USP) requirements. The specific courses required can be found under the USP section in the catalog.

II. Common Body of Knowledge: (excludes B.S.E. in Economics)

College of Business majors are required to take a common set of courses that expose them to the basic concepts, processes, and technical skills necessary to complete a well-rounded high-quality business education. The common body of knowledge includes ACCT 2010, ACCT 2020, DSCI 2100, ECON 1010, ECON 1020, FIN 2100, IMGT 2400, MGT 2010, MGT 2100, MKT 2100, and MGT 4800. Grades of C (not C-) or above required.

III. Major Requirements

Major requirements can be found under each major's page within the catalog.

IV. Free Electives

Students must achieve a total of 120 credit hours to complete their bachelor's degree. Of those 120 credit hours, students must have 48 hours of upper-division credit.

Minimum requirements:

Candidates for the Bachelor of Science degree in the College of Business must:

- Achieve a cumulative College of Business and UW institution grade point average of at least 2.500.
- Complete 50% of the business credit hours from UW.
- Earn grades of C or above in common body of knowledge and major specific core courses.
- Earn a passing score on the Senior Exit Exam required for all College of Business majors.
- Economics majors also must hold a minimum 2.500 grade point average for all economics courses.

Students may not take courses for S/U (satisfactory/unsatisfactory) credit to satisfy university studies or college requirements, course requirements in the major, or courses outside the college required by the major department curriculum.

Acceptance of Transfer Credit

The College of Business complies with UW policies regarding transfer credit discussed in the front section of this bulletin. The college has special course transfer arrangements with Wyoming community colleges that allow some courses taken at community colleges at the lower-division (freshman-sophomore) level to transfer for upper-division (junior) credit. Wyoming community college transfer students should contact the College of Business Peter M. and Paula Green Johnson Student Success Center (GJSSC) for details.

Students transferring from other AACSB accredited colleges and universities will have their courses reviewed for transfer on a course-by-course basis.

The College of Business does not accept transfer credits for COB courses with equivalents at UW when the grade earned was less than a C.

Where appropriate, College of Business course equivalency will be granted for transfer courses at the 3000 and 4000 level if such coursework was completed at an AACSB or EQUIS institution only. Any coursework completed at an institution that does not meet that qualification will not be considered for upper-division equivalency.

The UW College of Business is AACSB accredited and therefore follows AACSB's current guidelines* to maintain accreditation.

The primary goal of this transfer policy is to ensure coursework accepted from other institutions is comparable to coursework required by our college's degree programs and ensure that the majority of learning is completed at the institution awarding the degree while simultaneously allowing measured flexibility in acceptance of transfer credits as allowed by AACSB accreditation in support of student progress and degree completion.** For example, at the time of this policy's creation, the number of business credit hours for the College of Business's undergraduate majors is fifty-four (54) credit hours (this includes the business

common body of knowledge courses). Therefore, to align with AACSB standards, a minimum of twenty-seven (27) credit hours of business coursework in the major must be earned in residence at the University of Wyoming.

In addition to the transfer policies defined in the University of Wyoming catalog, the College of Business has established the following policies in support of AACSB Standards governing the transfer of credit for equivalent business courses. Courses will be considered for transfer according to the additional criteria below. Students may transfer up to a total of twenty-seven (27) hours of business credits, either solely lower division courses or a mix of lower division and upper division courses, as follows:

- Students may transfer up to twenty-seven (27) lower division (1000/2000 level) business credits to the Common Body of Knowledge.
- Lower division courses from regionally accredited institutions will be evaluated for equivalency and approved by the UW Office of the Registrar annually.
- Students may transfer up to nine (9) upper division (3000/4000 level) business credits according to the following guidelines:
- Transferring upper-division business credits to be included in the twenty-seven (27) credits reduces the number of lower-division credits a student can transfer.
- Courses from AACSB/EQUIS accredited institutions will be evaluated for equivalency and approved by the College of Business.
- Courses from regionally accredited, non-AACSB/EQUIS institutions will be accepted as upper division elective credit in accordance with the transfer policies defined in the University of Wyoming catalog.
- The College of Business has collaborative provisions (detailed in separate articulation agreements) that allow students from Wyoming's community colleges to transfer up to nine (9) credit hours of 2000 level coursework to satisfy up to nine (9) credit hours of 3000 level coursework that has been evaluated by the College of Business. These courses will be evaluated annually for equivalency***.

* A requirement of the accreditation process (as reflected in Standard 6 of the 2020 Business Standards) is for accredited colleges to have clear policies regarding transfer coursework.

** As noted by AACSB: "transfer credit related to business disciplines is normally limited to no more than half of the program requirements" (2020 AACSB Standards, p. 13).

*** Per college-specific articulation agreements, students may be able to transfer coursework satisfying completion of the following courses: ACCT 3070, ACCT 3230, ACCT 3240, or ACCT 3430.

Accounting, Management, and Marketing Online Programs

The College of Business offers the opportunity to pursue online degree programs in accounting, management, and marketing, accredited by AACSB and delivered through distance education. These online delivery programs are designed to help students maximize their flexibility in the business world.

Students will be required to apply to UW and meet UW admissions criteria prior to enrolling in any College of Business program. Students must also attain a 2.500 GPA for graduation for both College of Business and UW courses, complete and submit an anticipated graduation date form, and must pass the Senior Exit Exam (BUSN 4990) to graduate.

To ensure the availability of required courses in this program, enrollment into courses is managed and approved by the College of Business Peter M. and Paula Green Johnson Student Success Center (GJSSC).

College of Business Minors

Minors are available to on-campus students through the College of Business in the areas of banking and financial services, blockchain, data analytics, economics, entrepreneurship (not available to College of

Business majors), hospitality business management, leadership, professional and technical selling, and real estate. Minor requirements may often be met by simply focusing on the elective credits available in a student's major.

A minimum grade of C must be earned in each course. Certification of a successful minor program completion occurs as part of the DegreeWorks progress report, and the Office of the Registrar notes the completion of the minor on student transcripts. Minors must be approved by the Peter M. and Paula Green Johnson Student Success Center (GJSSC).

Students must have a minimum of 2.500 cumulative UW GPA. Students must maintain a cumulative 2.500 GPA in the required College of Business courses for the minor to be awarded. A minimum of 50% of COB courses must be taken from the degree-awarding institution.

Cooperative Undergraduate Programs

The Concentration in Environment and Natural Resources

College of Business majors may earn a concurrent-major in Environment and Natural Resources (ENR) in cooperation with the UW School of Environment and Natural Resources. The appropriate use of natural resources and awareness of the environmental consequences of decisions have become key issues for businesses. Exposure to ideas, skills, and sensibilities in these areas is critical to future businesspeople. For more information call the ENR office at (307) 766-5089.

Graduate Study

The College of Business is comprised of three academic departments: accounting and finance, economics, and management and marketing. The faculty of these departments cooperate in the presentation of graduate work leading to the following degrees:

Master of Business Administration

Master of Science in Accounting

Master of Science in Economics

Doctor of Philosophy in Economics

Doctor of Philosophy in Marketing and Management

The College of Business faculty is passionately committed to the excellence of its graduate programs. The graduate programs in the College of Business are accredited by AACSB International. The three academic departments coordinate course offerings to support all the graduate degree programs; the M.B.A. program is a college-wide effort.

Cooperative Graduate Programs

The Concentration in Environment and Natural Resources

College of Business graduate students may earn an interdisciplinary minor in environment and natural resources (ENR) in cooperation with the UW School of Environment and Natural Resources. The appropriate use of natural resources and awareness of the environmental consequences of decisions have become key issues for all areas of business and economics. The School of Environment and Natural Resources is designed to move beyond the strictly disciplinary design and management of their long-term solutions. The school seeks to attract outstanding graduate students from a variety of disciplines, who are eager to pursue careers that engage other professionals, policymakers, and the public in finding innovative ways to resolve complex environmental and natural resource issues. To pursue a minor in ENR, students must first be admitted to another master's or doctoral degree program offered at the University of Wyoming. For more information call the ENR office at (307) 766-5080.

Major

Accounting, B.S.B.

The Accounting major prepares students for a career within the profession by providing them with the skills to create, interpret and analyze economic and financial information while focusing on assurance, financial and tax services.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge - Credits: 33

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Major Specific Courses

Accounting Core

- ACCT 3070 - Tax I Credits: 3
- ACCT 3230 - Intermediate Accounting I Credits: 3
- ACCT 3240 - Cost Accounting I Credits: 3
- ACCT 3430 - Intermediate Accounting II Credits: 4
- ACCT 3610 - Accounting Information Systems Credits: 3
- ACCT 3900 - Accounting Professional Skills Credits: 2
- ACCT 4060 - Auditing I Credits: 3

Accounting Elective: 3 Credits

Any accounting course at a 3000+ level that has not been used to meet any other primary major requirement.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirements.

Upper-Division Business Electives: 6 Credits

Any business courses at a 3000+ level that have not been used to meet any other primary major requirements.

Please Note:

All accounting courses for the major require a minimum grade of C. In addition to university and college requirements cited previously, requirements for accounting majors are listed above.

Students who anticipate preparing themselves for the CPA examination following completion of their degree should be aware of the Wyoming statute governing eligibility to sit for the exam. Please see the state board's web site for information: cpaboard.state.wy.us. The current curricula enables students to satisfy the educational requirements to sit for the CPA exam in Wyoming and some other jurisdictions.

Business Economics, B.S.B.

Business Economics is a subfield of economics, with a focus on the application of economic principles and quantitative analysis to business-related decision making. It is a discipline that uses economics and data analytics to enhance business management, providing tools and techniques to help businesses and organizations make informed choices and optimize their operations. The program equips students with skills and tools that are critical to decision making, market analysis, resource allocation, strategic planning, cost-benefit analysis, risk management, and policy/program evaluation to name a few.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should

check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Economics Core

- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- ECON 4240 - Evolution of Economic Ideas Credits: 3

Economics Electives: 6 Credits

Any Economics Courses at a 4000+ level that have not been used to meet any other primary major requirements.

Advanced Business Electives: 6 Credits

Any business courses at a 3000+ level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

A complete curriculum sheet is available from the Academic Advising unit of the GJSSC in the College of Business Building.

Business Economics majors must hold a 2.500 cumulative grade point average in all economics courses at graduation, as well as a minimum 2.500 cumulative UW grade point average and a minimum 2.500 grade point average in all College of Business courses.

With approval of the department chair or director of undergraduate studies, students may substitute work in certain areas of accounting, agricultural economics, business administration, history, political science, finance, mathematics, statistics, or law for 6 hours of 4000-level economics courses.

Students who intend to continue to graduate work are urged to give special attention to courses in economics theory, statistics and mathematics. Those planning a career in econometrics or mathematical economics should consult the department head as to mathematics and statistics requirements in these fields of study.

All economics courses for the major need a minimum grade of C (not C-).

Economics, B.S.E.

Economics is the science of decision making. It is a social science that primarily focuses on the study of how individuals, businesses, and governments make decisions to allocate scarce resources to best meet their needs and wants. It explores how these decisions impact the production, distribution, and consumption of goods and services, as well as the overall well-being of society. While it is referred to as a social science it is actually considered a STEM major. Economics students gain valuable tools and skills to understanding the insight in decision making, using resources effectively, value created through trade, policy analytics, data analytics, understanding market behavior, resource allocation, global perspective and critical thinking, just to name a few.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Economics Core

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- ECON 4240 - Evolution of Economic Ideas Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Choose 1 area of focus and its accompanying elective requirement.

General Economics Focus

Economics Core + 15 Economic Elective credits.

Economics Electives: 15 Credits

Any Economics courses at a 4000+ level that have not been used to meet any other primary major requirement.

Quantitative Analytics Economics Focus

- ECON 4230 - Intermediate Econometric Theory Credits: 3
- ECON 4530 - Computational Economics Credits: 3

Students must take one of the following courses:

- ECON 4115 - Time Series Analysis Credits: 3
- ECON 4730 - Advanced Regional Analysis Credits: 3
- STAT 4015 - Regression Analysis Credits: 3

OR

- STAT 4025 - Design and Analysis of Experiments I Credits: 3

Economics Electives: 6 Credits

Any Economics courses at a 4000+ level that have not been used to meet any other primary major requirements.

Environment and Natural Resource Economics Focus

Choose 3 of the following courses:

- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4430 - Energy Economics Credits: 3
- ECON 4460 - Resource Rich Economies Credits: 3

Economics Electives: 6 Credits

Any Economics courses at a 4000+ level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Entrepreneurship, B.S.B.

For students who wish to start their own businesses, provides exposure to the development and testing of business concepts, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with

120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3

- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Entrepreneurship Core

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- ENTR 4700 - Business Model Creation and Launch Credits: 3
- ENTR 4750 - Theories of Entrepreneurship Credits: 3

Entrepreneurship Elective - Credits: 3

Choose 1 from the following:

- ENTR 4910 - Topics in Entrepreneurship Credits: 3
- ENTR 4900 - Independent Study in Entrepreneurship Credits: 1-4
- MGT 2030 - Principle-Based Ethics Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3

Advanced Business Electives - Credits: 6

Any business course at a 3000+ level that has not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

The Entrepreneurship major is designed to assist students who wish to start their own businesses by providing them with exposure to the development and testing of business concepts. Analyzing the potential success of their concepts using a variety of tools and techniques, being flexible in developing new businesses and innovative ideas, and formulating and implementing business plans that will assist in the establishment and growth of these new ventures. The major provides students with exposure to issues involving family firms such as governance, succession and interpersonal relationships in both new ventures and established firms and prepares students to 1) start new businesses, 2) innovate in their own family firms and/or 3) be entrepreneurial in an existing business.

All courses for the entrepreneurship major require a minimum grade of C (not C-).

Finance, B.S.B.

The Finance major provides the principal concepts for students to understand financial management of business concerns and, if students desire, to specialize in bank management, corporation finances or investment management.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Finance Core: 15 Credits

- ACCT 3100 - Financial Statement Analysis Credits: 3
- FIN 3000 - Intermediate Corporate Finance Credits: 3
- FIN 3310 - Investment Management Credits: 3
- FIN 4400 - Financial Modeling Credits: 3

And choose one of the following two courses:

- ECON 3010 - Intermediate Macroeconomics Credits: 3

OR

- ECON 3020 - Intermediate Microeconomics Credits: 3

Finance Major Electives - Credits: 9

Choose 9 credits from the following options that have not been used to meet any other primary major requirement.

- FIN 3520 - Financial Markets Credits: 3
- FIN 4340 - Portfolio Management I Credits: 3
- FIN 4350 - Portfolio Management II Credits: 3
- FIN 4460 - Multinational Finance Credits: 3
- FIN 4710 - Risk Management Credits: 3
- FIN 4800 - Real Estate Finance Credits: 3
- FIN 4810 - Real Estate Investment Credits: 3
- ACCT 3240 - Cost Accounting I Credits: 3
- ECON 4115 - Time Series Analysis Credits: 3
- ECON 4450 - Monetary Theory Credits: 3
- ECON 4530 - Computational Economics Credits: 3
- ECON 4740 - International Economics and Policy Credits: 3

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Management, B.S.B.

Studies the activities and operations that bring together human, financial, material, and information resources to achieve goals in organizations. Students can customize their degree within one of three focus areas: Human Resources, General Management, or Management Hospitality.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the buisness credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Students must complete the math core, the management core, one of the focus areas and electives.

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Management Core

- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3

Choose one area of focus and its accompanying elective requirement.

Human Resources Focus - Credits: 9

- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 4220 - Talent Acquisition Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3
- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3

Upper-Division Business Electives - Credits 6

Any business courses at a 3000+ level that have not been used to meet any other primary major requirement.

General Management Focus - Credits: 9

- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3

- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3
- DSCI 4240 - Computer Applications in Decision Sciences Credits: 3
- DSCI 4260 - Project Management Credits: 3
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3

Upper-Division Business Electives: Credits: 6

Any business courses at a 3000+ level that have not been used to meet any other primary major requirements.

Management Hospitality Focus - Credits: 9

- BUSN 4600 - Advanced Internship in Business Credits: 1-3
- HOSP 2000 - Foundations of Customer Service & Hospitality Credits: 3
- HOSP 3000 - Managing Profitability in Hospitality Credits: 3

Management Hospitality Focus Elective Courses - Credits: 6

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- HOSP 4800 - Hospitality Operations Management Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- MKT 4440 - Services Marketing Credits: 3

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

The Management major focuses on using resources to achieve goals in organizations. It studies the activities and operations that bring together human, financial, material, and information resources. Management majors should graduate with an understanding of the business world and a set of tools to manage successfully parts or all of an organization's operations. The Management degree allows students the ability to customize their degree within one of three focus areas:

1) Human Resources Focus - An experiential-learning focused program designed to prepare students to develop and manage the human capital of an organization. Students will be prepared to develop and implement policies and practices for recruitment, socialization, training, development, compensation, performance management, career planning, and employee relations. As more organizations move away from viewing employees as a commodity, toward an understanding that employees are a resource that can be developed into a distinct competitive advantage to ensure organizational success, sustainability, and reputation in the human resource function in the workplace will become increasingly important. A Human Resource focus will help employees understand the core functions of the area of human resource management are to a) recognize the potential of individuals for and within an organization and b) structure a positive, supportive, constructive work environment that will enable employees to work at their optimal capacity and achieve organizational goals.

2) General Management Focus - A multi-faceted program designed to prepare

students to manage multiple business functions across a variety of organizational types. A particular emphasis is to help develop interpersonal and problem-solving skills so they are capable of resolving a broad spectrum of problems for large or small organizations, or consult with organizations about these issues. This focus area is designed to provide students with a large degree of flexibility when considering different career paths, because students will be prepared to systematically think through the processes that organizations use to create and maintain sustainable competitive advantage. General Management prepares students to work in for-profit businesses, non-profit organizations, entrepreneurial ventures, or in government organizations.

3) Management Hospitality Focus - An experiential-learning focused program designed to provide students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, entrepreneurship, and consumer relations. Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

The Management major is available to students as an online degree completion program under the Human Resource focus area and the General Management focus area.

All management courses for the major require a minimum grade of C (not C-).

Marketing, B.S.B.

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers, and for managing relationships in ways to benefit local and global stakeholders.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3

- ECON 1020 - Principles of Microeconomics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Marketing Core

- MKT 4240 - Consumer Behavior Credits: 3
- MKT 4450 - Advanced Marketing Management Credits: 3
- MKT 4520 - Marketing Research and Analysis Credits: 3

Marketing Electives - Credits: 6

Any MKT or SELL course at the 3000+ level that has not been used to meet any other primary major requirement.

Upper Business Electives: 6 Credits

Any business courses at a 3000 - 4000 level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

Marketing is a societal process and a set of organizational functions for creating, communicating, and delivering value to customers, and for managing relationships in ways to benefit local and global stakeholders. Marketing majors are employed in a wide variety of industries and governmental agencies where understanding and managing customer relationships are critical. Students find jobs in market research, advertising, public relations, professional selling, non-profit marketing, product management, retailing, digital marketing, and brand management.

The Marketing major is available to students as an online degree completion program.

All marketing courses for the major require a minimum grade of C (not C-).

Professional Sales, B.S.B.

Prepares students to manage business clients of for-profit and nonprofit organizations. Rigorous classroom experiences and industry opportunities equip students with

essential knowledge and skills required to begin professional careers in sales.

Degree Requirements - Total Credits: 120

As per University Graduation Requirements, a student must complete their degree with 120 overall credits, 42 of which must be upper-division.

50% of the business credit hours must be from the University of Wyoming.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Common Body of Knowledge

- ACCT 2010 - Principles of Accounting I Credits: 3

- ACCT 2020 - Principles of Accounting II Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- BUSN 4990 - Senior Exit Exam Credits: 0

Major Specific Courses

Math and Statistics Core

- MATH 2350 - Business Calculus Credits: 4

OR

- MATH 2200 - Calculus I Credits: 4
- MATH 2355 - Math Applications for Business Credits: 4

OR

- MATH 2205 - Calculus II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Professional Sales Core

- SELL 3310 - Professional and Technical Selling Credits: 3
- SELL 4310 - Advanced Selling Credits: 3
- SELL 4320 - Sales Force Strategies Credits: 3

Choose one of the following two courses:

- SELL 4330 - Sales Seminar Credits: 3

Or

- SELL 4340 - Professional Sports Sales Credits: 3

Professional Sales Electives - Credits: 3

Choose 1 from the following list:

- DSCI 4260 - Project Management Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3
- MGT 4395 - Supply Chain Management (Capstone) Credits: 3
- SELL 4900 - Independent Study in Professional Selling Credits: 1-4

(NCSC Sales Competition)

- SELL 4910 - Topics in Professional Selling Credits: 3

Advanced Business Electives - Credits: 6

Any business courses at a 3000 - 4000 level that have not been used to meet any other primary major requirements.

Free Electives from Any College

Courses from any college at any level that have not been used to meet any other primary major requirement.

Additional Information

The Professional Sales major prepares students to manage business clients of for-profit and nonprofit organizations. Specifically, this major provides business students with coursework and opportunities to equip themselves with essential

knowledge and skills required to begin professional careers in sales. Careers in sales offer independence, ample financial reward, personal growth and opportunities for rapid advancement within organizations. Students that pursue a degree in professional sales will be challenged with industry engagement opportunities such as internships, and sales competitions. Students experience rigorous classroom experiences designed to develop the knowledge and practical skills needed to succeed during the first years of their sales careers including: oral and written communication skills, selling techniques and networking, the use of sales technology and customer information, and sales pipeline management.

All professional selling courses for the major require a minimum grade of C.

Minor

Banking and Financial Services Minor

The Banking and Financial Services minor introduces the student to the field and provides them with a greater understanding of how the banking system functions to provide service and value to the economy.

Finance Requirement

- FIN 4510 - Bank Management Credits: 3
- FIN 4540 - Banking Policy Credits: 3
- FIN 4530 - Fixed Income Securities Credits: 3

Advanced Business Electives

- Any Business Course (3000-level or higher) Credits: 3
- Any Business Course (3000-level or higher) Credits: 3

Minor Total Credits: 15

Blockchain Minor

The Blockchain minor lays the foundation for gaining a competitive advantage in the blockchain ecosystem by providing an understanding of the implications and business opportunities associated with blockchain and digital assets and how they affect global industries.

Blockchain Core - Credits: 6

- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- BKCH 4021 - Business Applications of Blockchain Credits: 3

Blockchain Electives - Credits: 9

- BKCH 4121 - Case Studies in Block Chain Credits: 3
- BKCH 4910 - Topics in Blockchain Credits: 1-6
- DSCI 4260 - Project Management Credits: 3
- FIN 4221 - Blockchain & Digital Financial Services Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 4395 - Supply Chain Management (Capstone) Credits: 3
- COSC 1015 - Introduction to Programming for Data Science Credits: 3
- COSC 4010 - Special Topics in Computer Science Credits: 1-3
- ES 4920 - Entrepreneurship for Engineers Credits: 3

Total for Minor: 15 Credits

Data Analytics Minor

The Data Analytics minor is designed to provide the student with the skills necessary to gather, process and interpret the large amounts of data available in today's fast paced business environment.

Required Core

- IMGT 4500 - Data & Business Analytics Credits: 3

Choose 6 credits from the following Data Analytics Electives:

- ECON 4115 - Time Series Analysis Credits: 3
- ECON 4230 - Intermediate Econometric Theory Credits: 3
- ECON 4530 - Computational Economics Credits: 3
- ECON 4730 - Advanced Regional Analysis Credits: 3

Advanced Business Electives

- Any Business Course (3000-level or higher) Credits: 3
- Any Business Course (3000-level or higher) Credits: 3

Minor Total Credits: 15

Economics Minor

Economics is the science of decision making. It is a social science that primarily focuses on the study of how individuals, businesses, and governments make decisions to allocate scarce resources to best meet their needs and wants. It explores how these decisions impact the production, distribution, and consumption of goods and services, as well as the overall well-being of society. This minor is a great complement to any degree. Economics students gain valuable tools and skills to understanding the insight in decision making, using resources effectively, value created through trade, policy analytics, data analytics,

understanding market behavior, resource allocation, global perspective and critical thinking, just to name a few.

Economics Requirement

- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3

Advanced Economics Electives

- Any ECON Course Credits: 3 (excl. ECON 3010, ECON 3020)
- Any ECON Course (4000-level) Credits: 6

Minor Total Credits: 15

Entrepreneurship Minor

A minor in entrepreneurship features business courses likely to be important to the creator of a new venture and/or someone seeking to bring innovation and creativity to an existing enterprise.
For non-College of Business majors only.

Entrepreneurship Minor Requirements - Credits: 9

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- ENTR 4700 - Business Model Creation and Launch Credits: 3

- *Combination of courses from the Approved Electives for the Entrepreneurship Minor list totaling 6 credit hours.*

Approved Electives for the Entrepreneurship Minor - Credits: 6

- ACCT 3100 - Financial Statement Analysis Credits: 3
- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- DSCI 4230 - Purchasing and Supply Management Credits: 3
- ENTR 3020 - Comparison of Entrepreneurial Ecosystems Credits: 3
- ENTR 4750 - Theories of Entrepreneurship Credits: 3
- ES 4920 - Entrepreneurship for Engineers Credits: 3
- FCSC 3160 - Merchandise Retailing and Buying Credits: 3
- FCSC 4181 - Global Trade and Sourcing for Textile Products Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3
- MUSC 4000 - Careers in Music Credits: 2
- MUSC 4001 - Music Entrepreneurship Seminar Credits: 2
- MUSC 4005 - Internship in Music Business Credits: 1
- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3

- SELL 4310 - Advanced Selling Credits: 3

Additional Information

A minor in entrepreneurship features business courses likely to be important to the creator of a new venture and/or someone seeking to bring innovation and creativity to an existing enterprise. The minor includes exposure to various elements of the entrepreneurial process, including creativity, ideation, innovation, value proposition, and business model creation.

(For non-College of Business majors only)

All courses for the Entrepreneurship minor require a minimum grade of C (not C-).

Hospitality Business Management Minor

The Hospitality Business Minor provides students an understanding of the operations of multiple domains of the hospitality industry.

Minor Total Credits: 15

Required Courses - Credits: 9

- HOSP 2000 - Foundations of Customer Service & Hospitality Credits: 3
- HOSP 3000 - Managing Profitability in Hospitality Credits: 3
- HOSP 4800 - Hospitality Operations Management Credits: 3

Approved Elective Courses - Credits 6

- FCSC 1141 - Principles of Nutrition Credits: 3
- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3

- ORTM 3000 - Tourism Theory and Practice Credits: 3
- BUSN 4600 - Advanced Internship in Business Credits: 1-3
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- MKT 4440 - Services Marketing Credits: 3
- SELL 3310 - Professional and Technical Selling Credits: 3
- MGT 4340 - Law for Managers Credits: 3

Additional Information

The Hospitality Business Minor provides students an understanding of the operations of multiple domains of the hospitality industry including food and beverage, tourism and lodging, and entrepreneurship and consumer relations. Knowledge in these areas is critical for anyone desiring to work in the hospitality industry or for a business that services the hospitality industry.

All courses for the hospitality minor require a minimum grade of C (not C-).

Leadership Minor

A unique experience that prepares students to be principle-based leaders in every facet of their lives. Students develop leadership competencies and their own personal leadership style, and are prepared to make decisions in principle-based ways.

Minor Total Credits: 15

Required Courses - Credits: 9

- MGT 2030 - Principle-Based Ethics Credits: 3
- LEAD 3110 - Foundations for Leadership Credits: 3
- LEAD 4110 - Leadership in Practice Credits: 3

Leadership Electives - Credits: 6

- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- LEAD 4210 - Systems-led Leadership Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3
- AGRI 4700 - Elements of Leadership Credits: 3
- AIR 2010 - Team and Leadership Fundamentals I Credits: 1-0.5
- AIR 2020 - Team and Leadership Fundamentals II Credits: 1-0.5
- AIR 3010 - Leading People/Effective Communication I Credits: 3
- AIR 3020 - Leading People/Effective Communication II Credits: 3
- ARMY 2010 - Leadership and Ethics Credits: 1
- ARMY 2020 - Army Doctrine and Decision Making Credits: 2
- ARMY 2060 - Competent and Confident Leadership Credits: 2
- ARMY 3010 - Training Management & Warfighting Functions Credits: 1
- ARMY 3020 - Applied Leadership in Small Unit Operations Credits: 3
- ARMY 4010 - The Army Officer Credits: 1
- ARMY 4020 - Company Grade Leadership Credits: 2
- CNSL 2200 - Introduction to Student Leadership Credits: 2
- CNSL 3010 - Student Leadership Strategies Credits: 2
- CRMJ 4130 - Leadership and Management in the Criminal Justice System Credits: 3
- ENR 2410 - Introduction to Outdoor Leadership Credits: 3

OR

- ORTM 2410 - Outdoor Leadership Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3

- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4835 - Leading Nursing Practice Credits: 2
- GWST 2050 - Women and Leadership Credits: 3
- UWYO 3000 - Student Leadership in Supplemental Instruction Credits: 2

  (UWYO 3000 is a closed enrollment course. Students may only enroll if invited by LeaRN Program Director)

Additional Information

The Leadership Minor is a unique interdisciplinary curricular, co-curricular, and extra-curricular experience that prepares students to be principle-based leaders in every facet of their lives. Through the Leadership Minor, students develop leadership competencies and their own personal leadership style, and are prepared to make decisions in principle-based ways.

All courses for the leadership minor require a minimum grade of C (not C-).

Professional and Technical Selling Minor

Provides students with technical and/or liberal arts backgrounds with opportunities to pair these backgrounds with essential knowledge and skills required for careers in sales. Combines rigorous classroom experiences with industry opportunities.

Minor Total Credits: 15

Professional and Technical Selling Requirement - Credits: 3

- SELL 3310 - Professional and Technical Selling Credits: 3

Professional and Technical Selling Approved Elective Courses - Credits: 6

- SELL 4310 - Advanced Selling Credits: 3

OR

- SELL 4320 - Sales Force Strategies Credits: 3

AND

- SELL 4330 - Sales Seminar Credits: 3

OR

- SELL 4340 - Professional Sports Sales Credits: 3

Advanced Business Electives - Credits: 6

- Any business courses at the 3000 - 4000 level - Credits: 6

Additional Information

The professional and technical selling minor prepares students to manage business clients. This minor provides students with technical and/or liberal arts backgrounds with opportunities to pair these backgrounds with essential knowledge and skills required for careers in sales. Careers in sales offer independence, ample financial reward, personal growth, and opportunities for rapid advancement within organizations. Students experience rigorous classroom experiences designed to develop important knowledge and practical selling skills including: oral and written communication skills, selling techniques and networking, and the use of sales technology and customer information.

All professional and technical selling minors must comply with requirements of the advanced business prerequisites for enrollment in upper-division courses and must complete the common body of knowledge courses as listed previously. All professional selling courses for the minor require a minimum grade of C.

15 credit hours (3 credits required course, 6 credits from the Approved Elective Courses for the Professional and Technical Selling Minor course list, 6 credits of Advanced Business Electives)

Real Estate Minor

The Real Estate minor enables students to gain broad understanding of this important market and as a result compete for jobs in many real estate related careers such as real estate management, investment, development, brokerage, appraisal and more.

Real Estate Core - Credits: 6

- FIN 4800 - Real Estate Finance Credits: 3
- FIN 4810 - Real Estate Investment Credits: 3

Real Estate Electives - Credits: 9

Complete a minimum of 9 credits of electives (three courses) from the list below.

- ACCT 3100 - Financial Statement Analysis Credits: 3
- FIN 3100 - Real Estate Development Credits: 3
- FIN 3310 - Investment Management Credits: 3
- FIN 3520 - Financial Markets Credits: 3
- FIN 4510 - Bank Management Credits: 3
- FIN 4540 - Banking Policy Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3

- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3

Minor Total Credits: 15

Graduate

Accounting, M.S.

Students who wish to become professional accountants will find the online MS in Accounting degree to be one that enables them to develop both the personal and professional skills needed to enjoy a productive career.

Additional Requirements

The objectives of the master of science in accounting are:

- To provide students with an advanced understanding of the field and sub-topics of accounting,
- To provide students with professional skills that will enable them to enjoy productive and rewarding careers in accounting and accounting-related areas.

The program consists of a minimum of 30 semester credit hours of graduate coursework. Students must complete coursework in accounting and elective business and/or non-business courses as approved by program leadership. Eighty percent of the student's total coursework must consist of 5000-level courses; the remaining 20 percent may be 4000-level accounting or non-accounting courses (approximately six total credit hours). Non-accounting courses should be selected in consultation with the student's graduate adviser. Non-accounting courses at the 4000-level may be taken during the senior year of undergraduate study and applied to the master's program, but they must be

reserved for graduate credit and approved by the graduate program director prior to the first day of such classes. Courses reserved for graduate credit may not be counted towards the undergraduate degree requirements. Approved reservation of courses for graduate credit does not guarantee admission to the graduate program.

Core Accounting Courses

Students must take these 4 core accounting courses (minimum 12 credit hours):

- ACCT 5030 - Advanced Financial Accounting Credits: 3
- ACCT 5040 - Seminar in Managerial Accounting Credits: 3
- ACCT 5060 - Auditing II Credits: 3
- ACCT 5070 - Tax II Credits: 3

Note(s):

NOTE: ACCT 4060, ACCT 4900, ACCT 5000, and ACCT 5940 are not applicable to M.S. accounting students' programs of study.

The student must complete the required coursework with a minimum GPA of 3.000 on a 4.000 scale.

Any student falling below a cumulative GPA of 3.000 is automatically placed on probation for the following semester and must raise their GPA to 3.000 to avoid suspension. If a 3.000 GPA is not attained in the subsequent semester, the student will be suspended from the MS Accounting program and the University of Wyoming.

Students must maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Required Accounting Elective

Any accounting course at the 5000+ level that has not been used to meet any other primary major requirement.

Business Administration, M.B.A.

The UW MBA program offers an accelerated 1-year MBA tailored to those looking to gain the needed experience and business insights required in today's competitive marketplace.

Additional Requirements

- Thirty-six (36) credit hours of graduate coursework, including participation in all MBA Program activities (orientation, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development, etc.). Please note that students enrolled in any dual degree MBA program are required to complete all MBA participation activities and the core coursework.
- This is a cohort based program and while the course sequence is highly structured, there may be the opportunity to extend the duration of the one-year program. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.
- Participation in the International trip experience is required for all students in the Campus MBA program.

Course of Study

MBA Core Requirements (27 Credit Hours)

Required of all MBA students including all dual degree students.

- MBAM 5101 - MBA Foundations Credits: 1
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5201 - Data & Business Analytics Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 - Executive Leadership II Credits: 1
- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3
- MBAM 5434 - Macro Economic Analysis Credits: 3

MBA Elective Requirements

- MBA students must take an additional 9 credit hours of 5000 level College of Business courses. Dual degree students (JD/PharmD/MS) may take 6 credit hours outside the College of Business following dual degree agreement guidelines. Please contact your advisor for additional information.

Business Administration, Online, M.B.A.

The Online MBA Program is specifically designed for business professionals interested in a fully AACSB accredited, 100% online program that fits their busy schedules and enhances their understanding of decision-making in the workplace.

Additional Requirements

- 30 credit hours of graduate credit as outlined in the Course of Study.
- Concentration Available: Energy (EMN)
- Optional Certificate Add-Ons: CFP (certified financial planning) or Energy Business. Adding on a certificate may increase required number of credit hours. Please contact us for additional information.
- This is a cohort based program that can be flexible in sequence depending on student needs. Course sequence is subject to change at the discretion of the MBA Director.
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, student will be immediately dismissed from the program.

Prerequisite Courses

Prerequisite coursework may be requested based on experience and undergraduate coursework at the discretion of the MBA Program Director as part of the application process. Please contact the MBA & Professional Graduate Program Office for additional information.

Academic Requirements

Students must maintain a cumulative GPA of 3.000 in the MBA Program to remain in "good standing". If a student's GPA falls below 3.000, he or she is automatically placed on academic probation. The student must then receive a 3.0 GPA in all following semesters to avoid being dismissed from the program. A minimum cumulative GPA of 3.000 is required to graduate.

- A student who earns a grade lower than a "C" in any course may be immediately dismissed from the program.

Course of Study

MBA Core Requirements (21 Credit Hours)

Required of all MBAX students.

- MBAX 5104 - Organizational Behavior and Human Resource Management Credits: 3
- MBAX 5202 - Data and Decision Modeling Credits: 3
- MBAX 5204 - Financial Management Credits: 3
- MBAX 5208 - Accounting for Managers Credits: 3
- MBAX 5207 - Marketing Management Credits: 3
- MBAX 5330 - The Global Business Environment Credits: 3
- MBAX 5305 - Strategic Management Credits: 3

MBA Elective/Concentration Requirements

- MBA-MBAX students must take an additional 9 credit hours of 5000 level College of Business courses.
- Energy Concentration students will complete the additional 9 credit hours of coursework as follows:
- ACCT 5503 Fundamentals of Accounting in the Energy Industry. 3.
- MGT 5504 Energy Industry Value Chain. 3.
- FIN 5502 Energy Finance: Project Evaluation. 3.

Notes:

Students who are participating in the Advanced Accounting Concentration will not take MBAM 5208 or the required electives. Instead, they will take the following classes:

- ACCT 5030 - Advanced Financial Accounting Credits: 3
- ACCT 5040 - Seminar in Managerial Accounting Credits: 3
- ACCT 5060 - Auditing II Credits: 3
- ACCT 5070 - Tax II Credits: 3

Economics, M.S.

Economics is the science of decision making and how to create value through trade. An economics degree will provide you with the tools to work on challenging policy issues and employ data analytics to address those issues.

Requirements - Total Credits: 30

Required Economics Courses - Credits: 15

- ECON 5010 - Advanced Macroeconomic Analysis Credits: 3
- ECON 5230 - Intermediate Econometric Theory Credits: 3
- ECON 5300 - Game Theory Credits: 3
- ECON 5390 - Math Microeconomics Credits: 3
- ECON 5530 - Computational Economics Credits: 3

Graduate Elective Courses

Plan A - 12 hours of Graduate electives required plus 4 credits of Thesis Research credit

Plan B - 15 hours of Graduate electives.

A maximum of 6 hours can be taken at the 4000 level.

Additional Requirements

Program Specific Degree Requirements

A minimum of 18 hours in economics is required; at least 15 of these must be at the 5000 level. A basic core sequence of ECON 5010 (macro), ECON 5390 (math micro), ECON 5530 (computational), ECON 5230 (econometrics), and ECON 5300 (game theory) is required, which completes 15 hours of 5000-level courses, which is required.

The student must complete 26 hours of coursework and 4 hours of ECON5960 - Thesis Research for the Plan A option. The student must complete 30 hours of coursework and a project for the Plan B option.

Students may take 4000-level courses for graduate credit up to 6 hours.

A maximum of 6 semester hours of graduate coursework not used toward any other degree from another institution may be applied to the M.S. economics program subject to regulations regarding transfer of credit listed in this bulletin and with the approval of the director of graduate studies.

At the beginning of the third semester, the student selects a major professor who directs the Plan A thesis or Plan B project. A graduate committee, nominated by the major professor, the student, and the department chair, conducts an oral examination of the student on the project or thesis and area he/she has studied in the program. A favorable report by the committee and approval by the Office of the Registrar complete the degree requirements.

The majority of students complete the M.S. degree within two years.

QuickStart Master of Science in Economics

UW undergraduates can complete the M.S. degree in just one year after completing their B.S. degree if they apply to the QuickStart M.S. program in their junior year. To be eligible, students must have (and maintain) a cumulative GPA of 3.200 or better as well as an Economics GPA of 3.200 or better. They are also required to take the GRE by the fall of their senior year and score above 300 combined on the verbal and quantitative sections combined. The GRE requirement can be waived with letters of reommendation from two UW faculty members. Admission to the QuickStart program allows students to double-count 6 credits of courses taken as an undergraduate towards both the B.S. and M.S. degrees, and reserve an additional 6 credits of courses taken as an undergraduate towards the M.S.

degree alone. This then leaves only 18 credits to be taken after completion of the B.S. degree, which is feasible in just one year.

Economics, Ph.D.

Economics is the science of decision making and how to create value through trade. An economics degree will provide you with the tools to work on challenging policy issues and employ data analytics to address those issues.

Requirements - Total Credit Hours: 72

Required Economics Courses - Credits: 30

- ECON 5010 - Advanced Macroeconomic Analysis Credits: 3
- ECON 5020 - Advanced Microeconomic Analysis Credits: 3
- ECON 5120 - Advanced Analysis II-Microeconomics Credits: 3
- ECON 5130 - Dynamic Optimization Credits: 3
- ECON 5310 - Research Methods Credits: 3
- ECON 5330 - Advanced Mathematical Economics Credits: 3
- ECON 5350 - Advanced Econometrics Theory I Credits: 3
- ECON 5360 - Advanced Econometrics Theory II Credits: 3
- ECON 5400 - Advanced Resource and Environmental Economics Credits: 3
- ECON 5410 - Seminar in Advanced Resource and Environmental Economics Credits: 1-3

Graduate Elective Courses - Credits: 12

Dissertation Research - Credits: 30

Additional Requirements

The doctor of philosophy degree in the field of economics at the University of Wyoming requires a minimum of 42 hours of coursework. All coursework must be at the graduate (5000) level.

The program is designed to give the student a strong foundation in economic theory and the basic quantitative tools necessary for professional research. If students receive a grade lower than an A during their first year, they must take a comprehensive exam in that field (microeconomics and/or econometrics) during the summer to continue to the second year of the PhD program. Students who do not pass the comprehensive exam are dismissed from the program. They may continue to pursue an MS degree at the discretion of the Program Director and Department Chair. The program's qualifying exam takes the form of a research paper written during the second summer and defended to, and approved by, a faculty committee by December. Students who pass the qualifying paper requirement receive an MS degree and move on in the PhD program, while students who fail this requirement are dismissed from both the MS and PhD programs.

During the third year, or no later than the first few weeks of the fourth year, a graduate committee nominated by the student's major professor and the director of graduate studies conducts an oral examination of the student. The purpose of the oral examination is to determine whether the student has formulated a workable dissertation project and has the necessary skills to complete it.

Following successful completion of the dissertation, and completion of a departmental requirement of 30 hours of dissertation research, the student presents an oral defense to the graduate committee. The doctor of philosophy degree is granted on recommendation of the committee and approval by the Office of the Registrar,

providing all other requirements have been satisfactorily fulfilled.

Marketing and Management, Ph.D.

The program of study draws from extant marketing and management theory, combined with studies in basic and other applied sciences to create a base of knowledge, which is supplemented with courses in the gathering and analysis of qualitative and quantitative data.

Additional Requirements

Doctoral Program

Doctor of Philosophy in Marketing and Management

The Department of Management and Marketing offers a program leading to a Doctor of Philosophy in Marketing and Management. The program of study draws from extant marketing and management theory, including strategy and consumer and organizational behavior, combined with studies in the basic sciences (e.g., economics, psychology, education, communications) and other applied sciences (e.g., environmental sciences) to create a base of knowledge acceptable for marketing and management scholarship in higher education, and a depth of knowledge conducive to a stream of publishable research in a specific topic area within either marketing or management. Theoretical development is supplemented with course work in the gathering and analysis of qualitative and quantitative data, which prepares the student for rigorous exploration of marketing and managerial phenomena. Students are required to complete 72 semester hours and a scholarly dissertation that contributes to the knowledge foundations in marketing or management and contributes to the basic sciences that informed the inquiry. Semester hours will include core classes from the department

graduate faculty, outside elective courses in statistics, basic social sciences, and/or interdisciplinary studies in environmental and natural resources, and dissertation work. First and second year research projects are also required, aimed at the student having published articles in respected marketing, management and/or social science journals before program completion. A Comprehensive exam is completed at the end of the second semester.

All doctoral students are mentored in both research and teaching. Students are expected to teach while enrolled in the program. The program is designed to give students expertise and demonstrated competency in both research and teaching.

Application Deadlines

We begin accepting applications in October for the following fall semester. All completed applications must be submitted by February 1st.

Admission Requirements

• A master's degree is preferred but not required. Highly qualified students without a Master's degree may receive consideration.

• Completed application (i.e., all required materials submitted) on the UW Graduate Programs Applications system

• $50 application fee paid to University Admissions. This covers administrative expenses and will not be waived.

• Copies of **all** undergraduate and graduate program transcripts scanned and uploaded to the UW system, and official transcripts from each post-secondary institution attended submitted to the UW admissions office

• A valid GRE (310) or GMAT (650) score. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be requested from the testing organization and sent to UW

• Three strong letters of recommendation, including one or more from an academic. The letters must be uploaded by the recommenders to the UW system in MS Word or .pdf format

• A personal statement summarizing your interest in pursuing doctoral studies and speaking to questions or issues you wish to research. This document must be uploaded to the UW system as an MS Word or .pdf document

• For international students, an English proficiency test is required: Test of Foreign Language (TOEFL), International English Language Testing System (IELTS), or DUOLINGO scores are accepted. A scanned copy of the unofficial results must be uploaded to the UW system, and official scores must be submitted to UW from the testing organization. Minimum scores:

- TOEFL score of 76 (online), 540 (paper) or 207 (computer-based) is required for admission
- IELTS minimum score of 6.5 is required for admission
- Duolingo minimum score of 110 is required for admission

Certificate

Certified Financial Planning Certificate (Graduate)

The certificate is composed of 18-credits of masters-level graduate coursework with the primary goal of providing students with the education, training, and skills necessary to be able to sit for the Certified Financial Planner (CFP) examination.

Additional Requirements

The curriculum is aligned with the CFP® Board's Principal Knowledge Topics and covers principles and practices of essential areas of financial planning, including:

- Wealth Management
- Investment Management
- Tax Planning
- Estate Planning
- Insurance and Retirement Planning

CFP Certificate Requirements

- FIN 5070 - Tax Planning for Financial Planners Credits: 3
- FIN 5310 - Advanced Investment Analysis Credits: 3
- FIN 5720 - Insurance and Retirement Planning Credits: 3
- FIN 5750 - Fundamentals of Financial Planning Credits: 3
- FIN 5780 - Estate Planning Credits: 3
- FIN 5800 - CFP Capstone Credits: 3
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

Energy Business Certificate (Graduate)

The online Energy Business Certificate is designed for professionals working in the energy indsutry who are interested in gaining knowledge related to real-world application within the highly competitive industry.

Additional Requirements

The Certificate in Energy Business is composed of 9-credits of masters-level graduate coursework in the College of Business, with the primary goal of achieving mastery and professional skills common to functional business roles within the energy industry. Specifically:

- Develop a working understanding of the concepts and practices of Supply Chain Management to make strategic support decisions within the energy industry.

- Acquire the foundation necessary to work in the energy industry as a financial statement analyst, manager, auditor, or accountant.
- Utilize core capital budgeting, techno-economic cashflow modeling and other finance concepts to evaluate energy industry project investments.
- Demonstrate effective problem solving, written, and oral communication skills in the context of the energy industry.

Certificate Requirements

- FIN 5502 - Energy Finance: Project Evaluation Credits: 3
- ACCT 5503 - Fundamentals of Accounting in the Energy Industry Credits: 3
- MGT 5504 - Energy Industry Value Chain Credits: 3
- Maintain good academic standing at the program and university level and receive no letter grade of D or F. If a letter grade of D or F is received, the student may be immediately dismissed from the program.

College of Education

Education Building, room 6

(307) 766-3145

www.uwyo.edu/education

Jenna M. Shim, John P. "Jack" Ellbogen Interim Dean

Peter Moran: Associate Dean for Graduate Programs

Alan Buss: Associate Dean for Undergraduate Programs

Mark Perkins: Assistant Dean for Assessment, Data, and Reporting

Christi Thompson: Assistant Dean for Student Success

The College of Education prepares teachers, counselors, administrators and other service personnel for positions in public education in Wyoming, throughout the nation, and the world. The teacher education program incorporates content area courses from the various colleges on campus with experiences in educational methodology. Programs are designed to provide students with a maximum amount of experience in the classroom.

Graduates of the College of Education are prepared to deal with youth growing up in a rapidly changing world. Programs are experiential, collaborative, outcomes based, and technologically supported. Emphasis is placed on professional ethics, a commitment to lifelong learning, and respect for all individuals in our culturally diverse society.

Organization of the College

The College of Education includes undergraduate teacher education and graduate studies in education. Schools offering undergraduate and graduate programs in the college include:

- **School of Teacher Education**
- **School of Counseling, Leadership, Advocacy, and Design**

Undergraduate and graduate education are supported by several units. The College of Education Student Success Center, McWhinnie Hall room 100, coordinates activities dealing with academic advising, field experiences, and teacher licensure.

The Wellspring Counseling Clinic provides counseling services to students, staff, faculty of the university, as well as the community at-large.

The College of Education, College of Arts and Sciences, Wyoming community colleges, many Wyoming districts, the Wyoming Professional Teaching Standards Board, and the Wyoming Department of Education are part of the Wyoming School-University Partnership, which grounds collaborative efforts across the state related to K-12 preservice and in-service education.

The Laboratory School, an Albany County School District entity, serves the college, the university, the school district, and the state as an educational center for research, development, instructional advancement, and in-service education. The school enrolls students in pre-school through eighth grade.

The Learning Resource Center is a branch of the university library system. Educational materials are available to serve the needs of K-12 students, university students, university faculty and public school faculty in Wyoming.

The Learning Research Center & Clinic provides a home base for UW faculty and graduate students researching literacy across the lifespan. Connecting, supporting and expanding existing literacy programs across Wyoming. Inviting visiting scholars with literacy research expertise to collaborate and contribute.

Faculty in the College of Education

School of Counseling, Leadership, Advocacy, and Design

School Director: Courtney McKim

Professors:

COURTNEY McKIM, B.S. Boise State University 2006; Ph.D. University of Nebraska 2011; Professor of Educational Research 2023, 2020, 2011.

Associate Professors:

RICHARD CARTER, B.S. Western Carolina University 2010; M.S.E. 2012; Ph.D. University of Kansas 2016; Associate Professor of Special Education 2023, 2017.

AMANDA DeDIEGO, B.S. University of North Georgia 2009; M.S. 2012; Ph.D. University of Tennessee 2016; Associate Professor of Counselor Education 2022, 2016.

MICHAEL M. MORGAN, B.S. Brigham Young University 1993; M.S. Auburn University 1995; Ph.D. Purdue University

2003; Associate Professor of Counselor Education 2011, 2003.

LINDSEY NICHOLS, B.S. University of Connecticut 2002; M.A. University of Connecticut 2003; M.Ed. University of North Carolina at Chapel Hill 2006; Ph.D. Pennsylvania State University 2012; Associate Professor 2019.

W. REED SCULL, B.S. St. Louis University 1983; M.A. University of Nevada-Reno 1989; Ed.D. University of Arizona 1994; Associate Professor 2019.

Assistant Professors:

WILLIAM CAIN, B.A. University of Texas 1994; Ph.D. Michigan State University 2018; Assistant Professor 2018.

JONTHAN CARRIER, B.S. East Tennessee State University 1999; M.S.E. Portland State University 2002; Ph.D. University of the Cumberlands 2017; Assistant Professor of Higher Education Administration 2020.

BARBARA HICKMAN, B.A. University of Minnesota 1985; B.S. University of Minnesota 1986; M.A. Saint Mary's College 1997; Ed.D. Northern Arizona University 2017; Assistant Professor 2019.

MARGARET HUDSON, B.A. University of Wyoming 1989; M.A. 1995; M.A. 2001; Ed.D. 2010; Assistant Professor of Educational Leadership 2022.

JIHYUN LEE, B.A. Daegu University 2006; M.Ed. Korea National University 2012; M.S. University of Wisconsin-Madison 2014; Ph.D. University of Texas-Austin 2018; Assistant Professor 2019.

ROBERT MADDOX, B.S Missouri State University 2005; M.A. Southeast Missouri State University 2009; Ed.S. Southeast Missouri State University 2011; Ph.D. University of Wyoming 2015; Assistant Professor 2019.

LAY-NAH BLUE MORRIS-HOWE, B.S. University of Wyoming 2004; M.S. 2007; Ph.D. 2011; Assistant Professor of Counselor Education 2015.

MARK PERKINS, B.A. Ft. Lewis College 2001; M.A. University of Colorado-Denver 2009; Ph.D. Colorado State University 2014; Assistant Professor of Educational Research, 2020.

MIA WILLIAMS, B.S. Northern Arizona University 1995; M.Ed., 1999 Ph.D 2008 Arizona State University Assistant Professor 2020.

Associate Professional Lecturer:

TIFFANY HUNT, B.S. University of Wyoming 2001; M.S. University of Northern Colorado 2006, Ph.D. 2017; Assistant Professional Lecturer of Special Education 2014.

Professors Emeritus

Martin Agran, Mary Alice Bruce, John Cochenour, Ace Cossairt, Kay Cowie, Michael Day, Deborah McGriff, Alan Moore, Kay Persichitte, Dorothy Yocom, Suzanne Young.

School of Teacher Education

School Director: Scott Chamberlin

Professors:

STEVEN M. BIALOSTOK, B.A. University of the Pacific 1975; M.S.W. California State University - Sacramento 1986; Ph.D. University of Arizona 1999; Professor of Elementary and Early Childhood Education 2000, 2015.

CYNTHIA BROCK, B.S. Oregon State University 1981; MGd Washington State University 1985; Ph.D. Michigan State University 1997; Wyoming Excellence in Education Literacy Chair 2015.

ALAN R. BUSS, B.A. Brigham Young University 1989; M.A. 1993; Ph.D. University of Wyoming 1998; Professor of Elementary and Early Childhood Education 2019, 1997.

SCOTT A. CHAMBERLIN, B.A. Purdue University 1989 and 1993; M.Ed. University of Utah 1998; Ph.D. Purdue University

2002; Professor of Elementary and Early Childhood Education 2015, 2003.

JOHN KAMBUTU, B. A. University of Wyoming 1991; M. A. 1992; Ph.D. 1998; Professor of Educational Studies 2015, 1999.

RICHARD KITCHEN, B.A. University of Colorado-Denver 1984; M.A. University of Montana 1990; Ph.D. University of Wisconsin- Madison 1996; Professor of Secondary Education 2017. Wyoming Excellence in Education Mathematics Education Chair 2017.

PETER WILLIAM MORAN, B.A. University of Wyoming 1987; M.A. Kansas State University 1993; Ph.D. 2000; Professor of Elementary and Early Childhood Education 2017, 2001.

LYDIAH NGANGA, B.S. University of Wyoming 1998; M.S. 2000; Ph.D. 2005; Professor of Elementary and Early Childhood Education 2020, 2005.

LESLIE S. RUSH, B.S. Texas A&M-Commerce 1984; M.Ed. 1996; Ph.D. University of Georgia, 2002; Professor of Secondary Education 2014, 2002.

JENNA M. SHIM, B.A. California State University - Los Angeles 1994; M.M. Manhattan School of Music - New York 1996; M.S. State University of New York - Albany 2006; Ph.D. 2009; Professor of Educational Studies 2016, 2010.

TIMOTHY F. SLATER, B.S. Kansas State University 1989; B.S. Ed. 1989; M.S. Clemson University 1991; Ph.D. University of South Carolina 1993; Professor of Secondary Education 2008. Wyoming Excellence in Education Science Education Chair 2008.

ALLEN TRENT, B.A. Eastern Kentucky University 1986; M.S. University of Dayton 1992; Ph.D. The Ohio State University 2000; Professor of Elementary and Early Childhood Education 2012.

Associate Professors:

TAO HAN, B.A. Sungshin Women's University, Korea 1984; M.A. University of Arizona 1993; M.A. University of Nevada-Reno 2002; Ph.D. 2006; Associate Professor of Elementary and Early Childhood Education 2016, 2010.

ANA HOUSEAL, B.A. University of Iowa 1985; M.A. University of Northern Iowa 1998; Ph.D. University of Illinois 2010; Associate Professor of Elementary and Early Childhood Education 2017, 2011.

AMY ROBERTS, B.S. Indiana University 1986; M.A. Portland State University 1991; Ph.D. Indiana University 1996; Associate Professor of Elementary and Early Childhood Education 2004, 1998.

Assistant Professors:

ANNE AYDINIAN-PERRY, A.B. The University of Chicago 2003; M.Ed. University of Houston 2014; Ed.D. 2021; Assistant Professor of Secondary Social Studies Education 2023.

ALI BICER, B.S. Celal Bayar University 2006; M.S. Texas A&M University 2012; Ph.D. 2016; Assistant Professor of Elementary and Early Childhood Education 2019.

EMANUEL EIDIN, B.A. Bar-Ilan University 2008; MSc. Weizmann Institute of Science 2012; Ph.D. 2018; Assistant Professor of Secondary Science Education 2023.

TODD REYNOLDS, B.A. University of Northern Colorado 1998; M.A. 2004; Ed.S. 2008; Ph.D. University of Wyoming 2015; Assistant Professor of Secondary Education 2019.

ALISON MERCIER, B.S. North Carolina State University 2000; M.S. University of North Carolina 2020; Assistant Professor of Secondary Education 2020.

ANNA PAYNE, B.A. University of Northern Iowa 2004; M.A. University of Iowa; Ph.D. Baylor University 2023; Assistant Professor of Mathematics Education 2023.

Senior Lecturers:

NIKKI BALDWIN, B.A. University of Wyoming 1994; M.A. 2005; Senior Lecturer of Elementary and Early Childhood Education 2020, 2009.

KIMBERLY GUSTAFSON, B.A. University of Wyoming 1998; M.A. 2003; Ed.D. 2010; Senior Lecturer of Elementary and Early Childhood Education 2019, 2007.

Associate Lecturers:

JENNIFER GERINGER, B.A. University of Texas - San Antonio 1991; M.S. University of Wyoming 1997; Ph.D. 2001; Associate Lecturer of Elementary and Early Childhood Education 2022, 2015.

JASON KATZMANN, B.S. Texas Women's University 1994; M.A. Colorado College 2000; Ph.D. University of Northern Colorado 2007; Associate Lecturer of Educational Studies 2016, 2007.

ROD THOMPSON, B.A. University of Nebraska at Kearney 1991; M.A. University of Northern Iowa 1998; Associate Lecturer of Educational Studies 2019.

Assistant Lecturers:

JANET LEAR, B.S. University of Wisconsin-Madison 1990; M.A. University of California, Berkeley 1998; Ph.D. University of Denver 2017; Assistant Lecturer of Educational Studies 2019.

ROSEMARY T. MCBRIDE, B.A. Utah State University 2004; M.S. University of California, Davis 2005; Ph.D. University of Wyoming 2023; Assistant Lecturer of Agricultural Education 2023.

JOSEPH SCHROER, B.A. University of Cincinnati 2002; B.S. 2005; M.A. 2001; Ph.D. 2007; Assistant Lecturer of Educational Studies 2019.

Professors Emeritus:

Michelle Buchanan, Barbara A. Chatton, Margaret Cooney, Lydia Dambekalns, Judith Z. Ellsworth, Linda Hutchison,

Jacqueline Leonard, Patricia McClurg, R. Timothy Rush

Accreditation

The College of Education, a member of the American Association of Colleges of Teacher Education, is currently accredited by the National Council for the Accreditation of Educator Preparation (CAEP) and is moving toward the Association for Advancing Quality in Educator Preparation (AAQEP) in 2023-2024. The Wyoming Professional Teaching Standards Board (PTSB) and the North Central Association of Colleges and Schools approve the college as an accredited teacher-preparing institution. The Counseling programs are fully accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

Academic Advising

Students are assigned an academic advisor who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their adviser regularly. The College of Education Student Success Center coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Further information on each program is available in:

College of Education Student Success Center
McWhinnie Hall room 100
Dept. 3374, 1000 E. University Ave.
Laramie, WY 82071

(307) 766-2230

edquest@uwyo.edu

Major

Elementary Education, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

The Elementary Education program prepares students to teach in grades K-6. A minimum of 120 credit hours are required for this

degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDEL 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

Foundations

All Professional Education requirements must be completed with a grade of C or higher.

- EDEC 1020 - Introduction to Early Childhood Education Credits: 3

OR

- EDEL 1200 - Introduction to Elementary Education Credits: 3

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

- EDEC 2000 - Engaging Families in Early Childhood Settings Credits: 3

OR

- EDEX 2000 - Collaboration and Professional Relationships Credits: 3

OR

- EDEL 2100 - Engaging Family and Community in Schools Credits: 3

- EDST 3200 - Foundations of ESL Learning Credits: 3

Completion of EDST 2450 is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3100 - Teacher as Practitioner Credits: 3

A minimum of 2.75 UW cumulative GPA is required for registration in EDST 3100.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Practicum

An approved background check must be on file with the College of Education Student Success Center for registration and completion of these courses.

If EDEC 1020 is completed, EDST 1200 Practicum 1 is not required.

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

This requirement is typically completed concurrently with EDST 3100

Methods

- EDEC 4209 - Early Literacy Methods Credits: 3
- EDEL 3724 - Elementary Science Education Credits: 3
- EDEL 4109 - Elementary Humanities Education Credits: 5
- EDEL 4309 - Upper Elementary Literacy Education Credits: 2-5 (3 Credits Required)
- EDEL 4410 - Elementary Mathematics Educ Credits: 5

Residency in Teaching

All methods courses must be completed prior to enrollment in EDEL 4500.

- EDEL 4500 - Residency in Teaching Credits: 1-16 (15 Credits Required)

Elementary Core Content

Minimum 2.5 GPA required in major content. All major content courses must be completed with a grade of C or higher prior to enrollment in EDEL 4109, EDEL 4309 and EDEL 4410.

Literacy

- EDEL 2140 - Teaching Literacy in the Elementary School Credits: 3
- EDEL 2280 - Literature for Children Credits: 3
- EDEL 3720 - Literacy Difficulties Credits: 2

Mathematics

- MATH 1100 - Number and Operations for Elementary School Teachers Credits: 3
- MATH 1105 - Data, Probability, and Algebra for Elementary School Teachers Credits: 3

  Can be substituted with: (MATH 1400 or MATH 1405 or MATH 1450) **AND** (STAT 2070 or STAT 2050), **OR** MATH 2200 or MATH 2350.
- MATH 2120 - Geometry and Measurement for Elementary School Teachers Credits: 3

Science

Can be substituted with other approved PN sciences.

- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

  OR
- ASTR 1070 - The Earth: Its Physical Environment Credits: 4

- LIFE 1020 - Life Science Credits: 4

- PHYS 1090 - The Fundamentals of the Physical Universe Credits: 4

Social Sciences

- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3
- Additional Social Studies course (The course completed to meet the USP U.S. & WY Constitution (V) requirement cannot be applied to this content requirement.

Credits / Units: 3

Health

- HLED 2006 - Health for Elementary Educators Credits: 1

Art

- EDEL 2170 - Art in the Elementary School Credits: 3

Elementary Education Electives

Students need a minimum of 9 credits of electives to complete their degree program. Students are strongly encouraged to apply elective hours toward a minor or endorsement, such as those in Early Childhood Education, English as a Second Language, American Sign Language and Computer Science.

Elementary Education/Special Education, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification), with dual credentials in elementary education and special education.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

The Elementary/Special Education program prepares students to seek licensure as a K-6 elementary teacher and K-12 special education teacher. A minimum of 120 credit hours is required for this degree program.

All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDEL 4500: Residency in Teaching. A minimum GPA of

2.50 in major content courses is required. A minimum of 42 credits must be upper division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

  A minimum of 2.75 UW cumulative GPA is required for registration in EDST 3100.
  A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.
- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

An approved background check must be on file with the College of Education Student Success Center for registration and completion of these courses.

- EDST 1200 - Practicum I Credits: 1 *If EDEC 1020 is completed EDST 1200 is not required.*
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2 *A minimum of 2.75 UW cumulative GPA is required for registration. A copy of your valid Wyoming Substitute Teaching Permit*

must be on file with the College of Education Student Success Center no later than the first day of class.

Assessment

- EDEX 4355 - Assessment & Students with Disabilities Credits: 3

Methods

- EDEC 4209 - Early Literacy Methods Credits: 3
- EDEL 3724 - Elementary Science Education Credits: 3
- EDEL 4309 - Upper Elementary Literacy Education Credits: 2-5
- EDEL 4109 - Elementary Humanities Education Credits: 5
- EDEL 4410 - Elementary Mathematics Educ Credits: 5

Residency in Teaching

All methods courses must be completed prior to enrollment in Residency in Teaching.

- EDEL 4500 - Residency in Teaching Credits: 1-16 (8 credits required)
- EDEX 4500 - Residency Teaching Special Ed Credits: 6

Elementary Education Content

Minimum 2.50 GPA required in major content. All major content courses must be completed with a grade of C or higher prior to enrollment in EDEL 4109 , EDEL 4309, EDEL 3720 and EDEL 4410.

Literacy

- EDEL 2140 - Teaching Literacy in the Elementary School Credits: 3
- EDEL 2280 - Literature for Children Credits: 3
- EDEL 3720 - Literacy Difficulties Credits: 2

Science

- LIFE 1020 - Life Science Credits: 4
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

OR

- ASTR 1070 - The Earth: Its Physical Environment Credits: 4
- PHYS 1090 - The Fundamentals of the Physical Universe Credits: 4

Mathematics

- MATH 1100 - Number and Operations for Elementary School Teachers Credits: 3
- MATH 1105 - Data, Probability, and Algebra for Elementary School Teachers Credits: 3

Can be substituted with:
(MATH 1400 or MATH 1405 or MATH 1450) **AND** (STAT 2070 or STAT 2050), **OR** MATH 2200 or MATH 2350.

- MATH 2120 - Geometry and Measurement for Elementary School Teachers Credits: 3

Social Studies/Cultural Awareness

Take **ONE** of the following:

- AAST 1030 - Social Justice in the 21st Century Credits:
3 (AMST/NAIS/WMST/LTST 1030)
- EDST 3200 - Foundations of ESL Learning Credits: 3
- GEOG 1020 - Introduction to Human Geography Credits: 3
- WIND 2100 - Introduction to Disability Studies Credits: 3

Art

- EDEL 2170 - Art in the Elementary School Credits: 3

Health

- HLED 2006 - Health for Elementary Educators Credits: 1

Special Education Content

All major content courses must be completed with a grade of C or higher prior to enrollment in EDEL 4109, EDEL 4309, EDEL 3720 and EDEL 4410.

- EDEX 2000 - Collaboration and Professional Relationships Credits: 3
- EDEX 3071 - Understanding Students with High Incidence Disabilities Credits: 3
- EDEX 3072 - Teaching st. w/High Inc Dis Credits: 3
- EDEX 3080 - Understanding Students with Low Incidence Disabilities Credits: 3
- EDEX 3081 - Teaching Students with Low Incidence Disabilities Credits: 3
- EDEX 3110 - Behavioral Supports & Interv. Credits: 3
- EDEX 4120 - Data Analysis and IEP Development Credits: 3
- EDEX 4720 - Law and Students with Disabilities Credits: 3
- WIND 4020 - Disability Studies Theory and Practice Credits: 3

Secondary Agricultural Education with Concurrent Major in Agricultural Business, B.S.

This degree program leads to initial teaching licensure (leading to teaching certification) 6th-12th grade.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met

before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Agricultural Education and a concurrent major in Agricultural Business. It prepares students to teach Agriculture in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500: Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3278 - Subject Matter Specific Methods I: Secondary Agriculture Education Credits: 3-6
  (3 credits required)
- EDSE 4278 - Subject Matter Specific Methods II: Secondary Agriculture Education Credits: 3-6
  (4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16
  (12 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Agricultural Education Core Requirements

These are the specific courses provided for all concurrent Agricultural Education majors through the College of Education.

- EDAG 3150 - Community Programs in Agricultural Education Credits: 3
- EDAG 4170 - Principles of Agricultural Mechanics and Technology Credits: 3
- EDAG 4180 - Techniques of Agricultural Mechanics and Technology Credits: 3

Agriculture and Science Core Requirements

These are specific courses for all concurrent Agricultural Education majors taken outside of the College of Education.

Choose one:

- AGEC 1020 - Principles of Microeconomics Credits: 3

OR

- ECON 1020 - Principles of Microeconomics Credits: 3

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 2020 - Feeds and Feeding Credits: 4
- PLNT 1000 - Agroecology Credits: 4
- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1
- REWM 2000 - Principles of Rangeland Management Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- LIFE 1010 - General Biology Credits: 4

Choose one:

- LIFE 2022 - Animal Biology Credits: 4

OR

- LIFE 2023 - Biology of Plants and Fungi Credits: 4

Choose one:

- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4

Agricultural Business Core Requirements

These are the specific courses taken by Agricultural Education students enrolled in the Agricultural Business concurrent major.

- AGEC 2020 - Farm and Ranch Business Management Credits: 4
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- ECON 3020 - Intermediate Microeconomics Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- Electives. Credits: 6 (Upper division AGEC, AGEC 3400: Ag Law recommended)

Endorsement in Secondary Biology Education option

Students can seek an endorsement in Secondary Biology Education. The required courses are:

Choose one:

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

Choose one:

- LIFE 3050 - Genetics Credits: 4

OR

- LIFE 3500 - Evolutionary Biology Credits: 3

- LIFE 3400 - General Ecology Credits: 3

Secondary Agricultural Education with Concurrent Major in Agricultural Communications, B.S.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Agricultural Education and a concurrent major in Agricultural Communications. It prepares students to teach Agriculture in grades 6-12.

A minimum of 120 credit hours are required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.

A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3278 - Subject Matter Specific Methods I: Secondary Agriculture Education Credits: 3-6

(3 credits required)

- EDSE 4278 - Subject Matter Specific Methods II: Secondary Agriculture Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Agricultural Education Core Requirements

These are the specific courses provided for all concurrent Agricultural Education majors through the College of Education.

- EDAG 3150 - Community Programs in Agricultural Education Credits: 3
- EDAG 4170 - Principles of Agricultural Mechanics and Technology Credits: 3
- EDAG 4180 - Techniques of Agricultural Mechanics and Technology Credits: 3

Agriculture and Science Core Requirements

These are specific courses for all concurrent Agricultural Education majors taken outside of the College of Education.

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 2020 - Feeds and Feeding Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- PLNT 1000 - Agroecology Credits: 4
- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1

Choose one;
AGEC 1010 Principles of Macroeconomics Credits: 3 OR
ECON 1010 Principles of Macroeconomics Credits: 3
OR
AGEC 1020 Principles of Microeconomics Credits: 3 OR
ECON 1020 Principles of Microeconomics Credits: 3

- LIFE 1010 - General Biology Credits: 4

Choose one:
- LIFE 2022 - Animal Biology Credits: 4

OR
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

Choose one:
- CHEM 1000 - Introductory Chemistry Credits: 4

OR
- CHEM 1020 - General Chemistry I Credits: 4

Agricultural Communications Core Requirements

These are the specific courses taken by Agricultural Education students enrolled in

the Agricultural Communication concurrent major.

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- COMM 2100 - Media Writing Credits: 3
- COJO 3530 - Multimedia Production Credits: 3
- Upper Division COJO Electives. Credits: 9
- Upper Division Major Electives. Credits: 6

Endorsement in Secondary Biology Education option

Students can seek an endorsement in Secondary Biology Education. The required courses are:

Choose one:

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

Choose one:

- LIFE 3050 - Genetics Credits: 4

OR

- LIFE 3500 - Evolutionary Biology Credits: 3

- LIFE 3400 - General Ecology Credits: 3

Secondary Agricultural Education with Concurrent Major in Animal and Veterinary Science, B.S.

This degree program leads to initial teaching licensure (leading to teaching certification) 6th-12th grade.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Agricultural Education and a concurrent major in Animal and Veterinary Science. It prepares students to teach Agriculture in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major

courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 3550 - Educational Assessment Credits: 2

Methods (Offered Fall Semester Only)

- EDSE 3278 - Subject Matter Specific Methods I: Secondary Agriculture Education Credits: 3-6

(3 credits required)

- EDSE 4278 - Subject Matter Specific Methods II: Secondary Agriculture Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Agricultural Education Core Requirements

These are the specific courses provided for all concurrent Agricultural Education majors through the College of Education.

- EDAG 3150 - Community Programs in Agricultural Education Credits: 3
- EDAG 4170 - Principles of Agricultural Mechanics and Technology Credits: 3
- EDAG 4180 - Techniques of Agricultural Mechanics and Technology Credits: 3

Agriculture and Science Core Requirements

These are specific courses for all concurrent Agricultural Education majors taken outside of the College of Education.

- ANSC 1010 - Introduction to Animal Science Credits: 4
- ANSC 2020 - Feeds and Feeding Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- PLNT 1000 - Agroecology Credits: 4

- PLNT 2025 - Horticultural Science Credits: 3
- PLNT 2026 - Horticultural Sciences Laboratory Credits: 1

Choose one:
AGEC 1010 Principles of Macroeconomics Credits: 3 OR
ECON 1010 Principles of Macroeconomics Credits: 3
OR
AGEC 1020 Principles of Microeconomics Credits: 3 OR
ECON 1020 Principles of Microeconomics Credits: 3

- LIFE 1010 - General Biology Credits: 4

Choose one:
- LIFE 2022 - Animal Biology Credits: 4

OR
- LIFE 2023 - Biology of Plants and Fungi Credits: 4

Choose one:
- CHEM 1000 - Introductory Chemistry Credits: 4

OR
- CHEM 1020 - General Chemistry I Credits: 4

Animal and Veterinary Science Core Requirements

These are the specific courses taken by Agricultural Education students enrolled in the Animal & Veterinary Sciences concurrent major.

- ANSC 2010 - Domestic Animal Metabolism Credits: 3
- ANSC 3010 - Domestic Animal Systems Physiology Credits: 4

Producation Requirement
Choose one of the following:
- ANSC 4220 - Advanced Beef Production and Management Credits: 3
- ANSC 4230 - Advanced Sheep Production & Management Credits: 3

- ANSC 4250 - Advanced Equine Production and Management Credits: 3

Choose 5 of the 6 Courses:
(minimum of 15 hours)

- ANSC 3100 - Principles of Animal Nutrition Credits: 3
- ANSC 4120 - Principles of Mammalian Reproduction Credits: 4
- ANSC 4540 - Principles of Animal Breeding Credits: 3
- FDSC 2040 - Principles of Meat Animal Evaluation Credits: 3
- FDSC 3060 - Principles of Meat Science and Muscle Biology Credits: 3
- PATB 4110 - Diseases of Food Animals Credits: 3

Endorsement in Secondary Biology Education option

Students can seek an endorsement in Secondary Biology Education. The required courses are:

Choose one:

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

Choose one:

- LIFE 3050 - Genetics Credits: 4

OR

- LIFE 3500 - Evolutionary Biology Credits: 3

- LIFE 3400 - General Ecology Credits: 3

Secondary Career & Technical Education w/ concurrent major in Human Development

& Family Sciences, B.A.S.

This degree program leads to initial teaching licensure (leading to teaching certification) for Human Development & Family Sciences 6-12 grade programs.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

This program consists of a minimum of 120 total credit hours. A minimum of 2.500

content GPA is required. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. All major courses must be passed with a grade of C or better.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

This B.A.S. degree requires specific CTE courses which students may transfer in or complete through the Laramie main campus or UW Casper if available. The professional education requirements can be completed concurrently with or after the CTE specific content is completed. The major may be advised through both the College of Education main campus and UW Casper.

Students are suggested to take STAT 2050 or STAT 2070 to complete the USP:Q and PHYS 1050, PHYS 1100, or PHYS 1210 to complete part of the USP:PN.

Online Access: The CTE program is a distance delivered program with the exception of a few intensive weekends (these weekends could be held on the UW-Casper campus or could be virtual depending on need).

Foundations

- ITEC 2360 - Teaching with Technology Credits: 3

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3
- EDSE 3020 - Facilities and Advisory Management Credits: 2-4

(3 Credits Required)

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods

- EDSE 3277 - Tech Ed Methods I: Intro Credits: 3-6

(3 Credits Required)

- EDSE 4277 - Subject Matter Specific Methods II: Secondary Technology Education Credits: 3-6

(4 Credits Required)

Residency

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 Credits Required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Human Development & Family Sciences Content

- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1180 - Applied Design Credits: 3
- FCSC 1410 - Scientific Study of Food Credits: 3
- FCSC 2121 - Child Development Credits: 4

- FCSC 1170 - Introduction to Apparel Construction Credits: 3

OR

- FCSC 2165 - Individual and Societal Motivations for Dress and Appearance Credits: 3

- FCSC 2200 - Professionalism and Communication in FCSC Credits: 3

- FCSC 2110 - Fundamentals of Aging and Human Development Credits: 3
- FCSC 2131 - Family Relations Credits: 3
- FCSC 2180 - Housing and Residential Design Credits: 3
- FCSC 2188 - Interior Design Studio I Credits: 3
- FCSC 3122 - Adolescence Credits: 3
- FCSC 3173 - Visual Merchandising and Promotion Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4112 - Family Decision-Making and Resource Management Credits: 3
- FCSC 4118 - Family Policy Credits: 3
- FCSC 4138 - Family Stress and Coping Credits: 3
- PSYC 1000 - General Psychology Credits: 3

Secondary Career & Technical Education with emphasis in Business, B.A.S.

This degree program leads to initial teacher licensure (leading to teacher certification) for secondary Business 6-12 grade programs.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses

required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

This program consists of a minimum of 120 total credit hours. A minimum of 2.500 content GPA is required. A minimum UW cumulative GPA of 2.75 is required for most upper division professional education courses, including EDSE 4500 Residency in Teaching. All major courses must be passed with a grade of C or better.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of the initial background check. Contact your College of Education advisor for details.

This B.A.S. degree requires specific CTE courses which students may transfer in or complete through the Laramie main campus or UW Casper if available. The professional education requirements can be completed concurrently with or after the CTE specific content is completed.

The major may be advised through both the College of Education main campus and UW Casper.

Students are suggested to take STAT 2050 or STAT 2070 to complete the USP:Q and PHYS 1050, PHYS 1100, or PHYS 1210 to complete part of the USP:PN.

All Professional Education requirements must be completed with a grade of C or higher.

Online Access: The CTE program is a distance delivered program with the exception of a few intensive weekends (these weekends could be held on the UW-Casper campus or could be virtual depending on need).

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDSE 3020 - Facilities and Advisory Management Credits: 2-4

(3 Credits Required)

- EDST 3480 - Diversity & the Politics of Schooling Credits: 3
- EDST 3200 - Foundations of ESL Learning Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods

- EDSE 3277 - Tech Ed Methods I: Intro Credits: 3-6

(3 Credits Required)

- EDSE 4277 - Subject Matter Specific Methods II: Secondary Technology Education Credits: 3-6

(4 Credits Required)

Residency

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 Credits Required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Business Content

- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles of Accounting II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- MATH 2350 - Business Calculus Credits: 4
- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1200 - Computer Information Systems Credits: 3
- COSC 1030 - Computer Programming Credits: 4

- FCSC 3110 - Personal Finance Credits: 3

Secondary Career & Technical Education, B.A.S.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

This program consists of a minimum of 120 total credit hours. A minimum of 2.500 content GPA is required. A minimum UW cumulative GPA of 2.75 is required for most upper division professional education courses, including EDSE 4500 Residency in Teaching. All major courses must be passed with a grade of C or better.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of the initial background check. Contact your College of Education advisor for details.

This B.A.S. degree requires specific CTE courses which students may tranfer in or complete through the Laramie main campus or UW Casper if available. The professional education requirements can be completed concurrently with or after the CTE specific content is completed.

The major may be advised through both the College of Education main campus and UW Casper.

Students are suggested to take STAT 2050 or STAT 2070 to complete the USP:Q and PHYS 1050, PHYS 1100, or PHYS 1210 to complete part of the USP:PN.

All Professional Education requirements must be completed with a grade of C or higher.

Online Access: The CTE program is a distance delivered program with the exception of a few intensive weekends (these weekends could be held on the UW-Casper campus or could be virtual depending on need).

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

- EDSE 3020 - Facilities and Advisory Management Credits: 2-4 (3 Credits Required)
- EDST 3200 - Foundations of ESL Learning Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3277 - Tech Ed Methods I: Intro Credits: 3-6 (3 Credits Required)
- EDSE 4277 - Subject Matter Specific Methods II: Secondary Technology Education Credits: 3-6 (4 Credits Required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16 (12 Credits Required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Major Content

Students must complete a minimum of 120 credits to graduate (Professional Education

Requirements and Major Content transfer credit). The Major Content must be from at least one PTSB approved content area. This coursework may be completed either prior to matriculating into the B.A.S. program or taken concurrently with the UW coursework.

Secondary English Education with Concurrent Major in English, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in English Education and a concurrent major in English. It prepares students to teach English in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.

A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Only)

- EDSE 3270 - Subject Matter Specific Methods I: Secondary English Education Credits: 3-6

(3 credits required)

- EDSE 4270 - Subject Matter Specific Methods II: Secondary English Education Credits: 3-6

(4 credits required)

Residency

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

English Core

36 Total Hours. At least 21 of the 36 hours must be upper-division (3000-level or higher)

Gateway to the English Major

- ENGL 2025 - Introduction to English Studies Credits: 3

Note: this course requirement is waived if student transfers in an A.A. or A.S.

Historical Period Classes

Take **ONE** of the following:

- ENGL 2425 - Literatures in English I Credits: 3
- ENGL 2430 - Literatures in English II Credits: 3
- ENGL 2435 - Literatures in English III Credits: 3
- ENGL 2340 - Native American Culture and Literature Credits: 3
- ENGL 2350 - Introduction to African American Literature Credits: 3
- ENGL 2360 - Mexican American Literature Credits: 3

Take **THREE** of the following:

- ENGL 3200 - Topics in: Medieval Literature Credits: 3
- ENGL 3300 - Topics in: Renaissance Literature Credits: 3
- ENGL 3400 - Topics in: Eighteenth-Century Literature Credits: 3
- ENGL 3500 - Topics in: Nineteenth-Century Literature Credits: 3
- ENGL 3600 - Topics in: 20th Century Literature Credits: 3

Expanding the Canon-6 Hours

6 credits total examining diversity-related issues, 2000-level or above

• 2340/2350/2360 can be taken either as an Expanding the Canon course OR as an Historical Period course. A full list of courses that fulfill the Expanding the Canon requirements will be published each semester; generally speaking, these courses will cover topics related to racial diversity, global literatures, gender, sexuality, or disability studies. Examples: 3330, 3710, 4450, 4455, 4460, 4470, 4640: Postcolonial Literature, 4830.

Rhetoric, Composition Pedagogy, and Professional Writing

- ENGL 3010 - Approaches to Rhetoric, Composition Pedagogy, and Professional Writing Credits: 3

6 Hours from the Following Rhetoric, Composition, and Professional Writing Courses Offered by English:

Take **TWO** of the Following:

- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENGL 2035 - Writing for Public Forums Credits: 3
- ENGL 2125 - Writing Tutor Pedagogy/Practicum Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4020 - Editing for Publication Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4061 - Rhetorical Theory and Criticism Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3

Foundations of Language

3 Hours in the History of the English Language or Social Linguistics

Take **ONE** of the Following:

- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3
- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3
- ANTH 2000 - Introduction to Linguistic Anthropology Credits: 3
- ENGL 4780 - History of the English Language Credits: 3

Young Adult Literature-3 Hours

- EDCI 4120 - Literature for Young Adults Credits: 3

World Language

12 hours of the same world language, including ASL

Capstone: Senior Seminar

- ENGL 4999 - Senior Seminar Credits: 3

Electives

9-10 Hours of Electives

Secondary Mathematics Education with Concurrent Major in Mathematics, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3

- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Mathematics Education and a concurrent major in Mathematics. It prepares students to teach Mathematics in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations-17 Hours

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3

- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment-3 Hours

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only) - 7 Hours

- EDSE 3271 - Subject Matter Specific Methods I: Secondary Mathematics Education Credits: 3-6

(3 credits required)

- EDSE 4271 - Subject Matter Specific Methods II: Secondary Mathematics Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only) - 15 Hours

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Major Content

It is necessary to complete a minimum of 50 hours in math coursework. Work must include 27 credit hours of upper-division mathematics. The grade in each course of this 50-hour requirement must be C or better. A minimum GPA of 2.500 in major content courses is required.

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2485 - Mathematics Major Seminar Credits: 2
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
- MATH 3340 - Introduction to Scientific Computing Credits: 3
- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
- MATH 4000 - History of Mathematics Credits: 3
- MATH 4600 - Foundations of Geometry Credits: 3

Major Related Statistics Courses - 3-4 Hours

Take **ONE** of the Following (STAT 2050 and STAT 2070 are recommended):

- STAT 2000 - Statistics and the World Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- STAT 3050 - Statistical Methods Credits: 3

Depth & Sequence Courses - 6 Hours

Take **ONE** of the Following Selected Pairs:

Pair 1

- MATH 4200 - Analysis 2: Advanced Analysis Credits: 3

AND

- MATH 4205 - Analysis 3: Undergraduate Topics in Analysis Credits: 3

OR

Pair 2

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

AND

- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3

OR

Pair 3

- MATH 4510 - Algebra II: Introduction to Group Theory Credits: 3

AND

- MATH 4520 - Algebra III: Topics in Abstract Algebra Credits: 3

Breadth Electives - 6 Hours

Take **TWO** of the following courses:

- MATH 3310 - Appl Diff Equations II Credits: 3
- MATH 3700 - Combinatorics Credits: 3
- MATH 4150 - Secondary School on Campus Credits: 1-4
- MATH 4230 - Introduction to Complex Analysis Credits: 3
- MATH 4255 - Mathematical Theory of Probability Credits: 3
- MATH 4265 - Introduction to the Theory of Statistics Credits: 3
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3
- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3
- MATH 4500 - Matrix Theory Credits: 3

OR

any 3000 or 4000 mathematics or statistics course allowed as an elective in the mathematics program.

Secondary Modern Languages Education with Concurrent Major in French, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Modern Language Education and a concurrent major in French (Formerly titled: Foreign Language). It prepares students to teach French in grades 6-12.

A minimum of 120 credit hours are required for this degree program. All major courses must be passed with a grade of C or better.

A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2040 with a minimum grade of C or higher is a prequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Only)

- EDSE 3276 - Subject Matter Specific Methods I: Secondary Modern Language Education Credits: 3-6

(3 credits required)

- EDSE 4276 - Subject Matter Specific Methods II: Secondary Modern Language Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Concurrent Major Courses

At least 21 hours must be upper-division (3000-level or higher)

French Core

- FREN 2040 - Second Year French II Credits: 3
- FREN 2140 - Introduction to Reading Credits: 3
- FREN 3005 - French Phonetics and Pronunciation Credits: 3
- FREN 3050 - Third Year French I Credits: 3
- FREN 3060 - Third Year French II Credits: 3

Major Related Courses

- EDCI 4350 - Introduction to Second Language Acquisition Credits: 3
- EDCI 4450 - Issues In Multicultural Education Credits: 3

Take ONE of the following:

- COMM 2010 - Public Speaking Credits: 3

OR

- THEA 1100 - Acting I Credits: 3

Take ONE of the following:

- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3

OR

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3

Foundations of Language

12 credits of FREN or courses related to the history, art or political science of the francophone world (consult your advisor). For those completing the ESL endorsement, six of these hours can be earned with EDCI 5430 and EDCI 5440 or with a study abroad in a French-speaking country. Study abroad is strongly recommended.

Electives

15 Credits of FREN Upper Division Electives at 3000+ Level

Language Proficiency Requirement

Completion of the OPI and WPT via the American Council on the Teaching of Foreign Languages (ACTFL) with a score of Advanced Low or better prior to enrollment in EDSE 4276.

Secondary Modern Languages Education with Concurrent Major in German, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Modern Language Education and a concurrent major in German (Formerly titled: Foreign Language). It prepares students to teach German in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content

courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3276 - Subject Matter Specific Methods I: Secondary Modern Language Education Credits: 3-6

(3 credits required)

- EDSE 4276 - Subject Matter Specific Methods II: Secondary Modern Language Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Concurrent Major Courses

At least 24 hours must be upper-division (3000-level or higher)

German Core

- GERM 2040 - Second Year German II Credits: 3
- GERM 3050 - Third Year German I Credits: 3
- GERM 3060 - Introduction to German Literature Credits: 3

Major Related Courses

- EDCI 4350 - Introduction to Second Language Acquisition Credits: 3
- EDCI 4450 - Issues In Multicultural Education Credits: 3

Take ONE of the following:

- COMM 2010 - Public Speaking Credits: 3

OR

- THEA 1100 - Acting I Credits: 3

Take ONE of the following:

- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3

OR

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3

Foundations of Language

12 credits of GERM or courses related to the history, art or political science of the German-speaking world (consult your advisor). For those completing the ESL endorsement, six of these hours can be earned with EDCI 5430 and EDCI 5440 or with a study abroad in a German-speaking country. Study abroad is strongly recommended.

Electives

21 Credits of GERM Elective above 2030

Language Proficiency Requirement

Completion of the OPI and WPT via the American Council on the Teaching of Foreign Languages (ACTFL) with a score of Advanced Low or better prior to enrollment in EDSE 4276.

Secondary Modern Languages Education with Concurrent Major in Spanish, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses

required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Modern Language Education and a concurrent major in Spanish (Formerly titled: Foreign Language). It prepares students to teach Spanish in grades 6-12.

A minimum of 120 credit hours is for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2040 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Only)

- EDSE 3276 - Subject Matter Specific Methods I: Secondary Modern Language Education Credits: 3-6 (3 credits required)
- EDSE 4276 - Subject Matter Specific Methods II: Secondary Modern Language Education Credits: 3-6 (4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16 (12 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Concurrent Major Courses

At least 27 hours must be upper-division (3000-level or higher)

Spanish Core

- SPAN 2040 - Second Year Spanish II Credits: 4
- SPAN 3060 - Third Year Spanish II Credits: 3
- SPAN 3140 - Introduction to Literature Credits: 3
- SPAN 3300 - Introduction to Hispanic Linguistics Credits: 3

Take ONE of the following:

- SPAN 3030 - Spanish for Heritage Speakers Credits: 3

OR

- SPAN 3050 - Third Year Spanish I Credits: 3

Take ONE of the following:

- SPAN 4080 - Spanish Advanced Grammar Credits: 3

OR

- SPAN 4090 - Spanish Phonetics and Phonology Credits: 3

Major Related Courses

- EDCI 4350 - Introduction to Second Language Acquisition Credits: 3
- EDCI 4450 - Issues In Multicultural Education Credits: 3

Take One of the following:

- COMM 2010 - Public Speaking Credits: 3

OR

- THEA 1100 - Acting I Credits: 3

Take ONE of the following:

- EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers Credits: 3

OR

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3

Foundations of Language

12 credits of SPAN or courses related to the history, art or political science of the Hispanophone world (consult your advisor). For those completing the ESL endorsement, six of these hours can be earned with EDCI 5430 and EDCI 5440 or with a study abroad in a Spanish-speaking country. Study abroad is strongly recommended.

Electives

- 12 Credits of SPAN Electives above 2030

Language Proficiency Requirement

Completion of the OPI and WPT via the American Council on the Teaching of Foreign Languages (ACTFL) with a score of Advanced Low or better prior to enrollment in EDSE 4276.

Secondary Science - Biological Science Education with Concurrent Major in Biology (BSSE), B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Biology Education and a concurrent major in Biology. It prepares students to teach Biology in grades 6-12.

A minimum of 120 credit hours are required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the

cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6

(3 credits required)

- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Major Content

Required Biology Courses

- LIFE 1010 - General Biology Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- LIFE 3050 - Genetics Credits: 4
- LIFE 3500 - Evolutionary Biology Credits: 3
- LIFE 3600 - Cell Biology Credits: 4

Plus Choose Two:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- MICR 2021 - General Microbiology Credits: 4 (can be substituted with MOLB 2021 - General Microbiology)

Required Additional Coursework

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- LIFE 2100 - Intro Research and Analysis Credits: 4

- COSC 1010 - Computational Thinking and Programming Credits: 3

OR

- COSC 1030 - Computer Programming Credits: 4

OR

- LIFE 2100 - Intro Research and Analysis Credits: 4

Note: LIFE 2100 can only be applied for one of the above (4) credit options.

Earth/Space Science (3-4 credits)

Elective Courses

9 hours - minimum. (with 6 hours of 3000-level or above and at least one course with an environmental focus); courses must come from ANVS, BOT, ENTO, KIN, LIFE, MICR, MOLB, PLNT, RNEW, or ZOO.

Secondary Science - Chemistry Education with Concurrent Major in Chemistry (CHSE), B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses

required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Chemistry Education and a concurrent major in Chemistry. It prepares students to teach Chemistry in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6
  (3 credits required)
- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6
  (4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16
  (12 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Chemistry Requirements

- CHEM 1020 - General Chemistry I Credits: 4

OR

- CHEM 1050 - Advanced General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

OR

- CHEM 1060 - Advanced General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5

OR

- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4507 - Physical Chemistry I Credits: 3

OR

- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

ADDITIONAL REQUIRED COURSEWORK:

- LIFE 1010 - General Biology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2021 - General Microbiology Credits: 4
- PHYS 1110 - General Physics I Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1120 - General Physics II Credits: 4

OR

- PHYS 1220 - Engineering Physics II Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

Upper Division Elective Courses

6 credit hours minimum of 3000-level or above

Courses must come from:

- CHEM, LIFE, or MOLB

*Note-CHEM 4230 is highly recommended

Secondary Science - Earth Science Education with Concurrent Major in Environmental Systems Science (ESSE), B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Earth Science Education and a concurrent major in Environmental Systems Science. It prepares students to teach Earth Science in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6
  (3 credits required)
- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6
  (4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16
  (12 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Environmental Systems Science Foundations

- ESS 1000 - Wyoming in the Earth System Credits: 3

  or (3) credit approved equivalent

- PLNT 1000 - Agroecology Credits: 4

  OR

- ENR 1200 - Environment Credits: 4

  OR

- LIFE 1010 - General Biology Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4

  OR

- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

  OR

- GEOG 1010 - Introduction to Physical Geography Credits: 3

  OR

- GEOL 1100 - Physical Geology Credits: 4

- CHEM 1020 - General Chemistry I Credits: 4

- ESS 2000 - Geochemical Cycles and the Earth System Credits: 4

  OR

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

- ESS 4950 - Exploring the Earth System Credits: 3
- ESS 4970 - Internship in Earth System Science Credits: 1-6 (met through successful completion of Residency in Teaching: EDSE 4500)

Spheres

Other options might be available in some categories

1. Anthrosphere - Choose 1 Course

- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4030 - Ecology of Knowledge Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4310 - Environmental Anthropology Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4412 - Global Environment History Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4

2. Atmosphere - Choose 1 Course

- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- ATSC 2200 - Severe and Unusual Weather Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

3. Biosphere - Choose 1 Course

- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- LIFE 3400 - General Ecology Credits: 3
- GEOG 4460 - Biogeography Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3

OR complete all three of the following

- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1
- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1

4. Lithosphere Environmental Change - Choose 1 Course

- ENR 3130 - Environmental Quality Credits: 3
- SOIL 3130 - Environmental Quality Credits: 3
- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ESS 3480 - Environmental Change Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4

5. Lithosphere Hydrology & Surface Processes - Choose 1 Course

- ENR 4285 - Wildland Hydrology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3

Skills & Tools

Data Analysis - Choose 1 course

- ENR 4525 - Environmental Data Analysis Credits: 4
- GEOL 4525 - Environmental Data Analysis Credits: 4
- ESS 4001 - Analysis of Nature's Data Credits: 3
- GEOL 3250 - Geosciences and Computers Credits: 4
- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

GIS/Remote Sensing - Choose 1 course

- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 4130 - Applied Remote Sensing Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

Additional Math/Science Courses
*Note: The general B.S. in ESS will allow for students to complete STAT 2050 (or 2070) **or** MATH 2200 and either PHYS 1050 **or** PHYS 1110. However, the ESSE program will require MATH 2200 + PHYS 1110 to meet additional

teaching endorsement requirements in other sciences.

- MATH 1400 - College Algebra Credits: 3
- MATH 2200 - Calculus I Credits: 4
  Note: MATH1405 is a prerequisite to MATH2200
- PHYS 1110 - General Physics I Credits: 4

Electives

A variable amount of elective courses is required to meet the minimum requirement. Work with your academic advisor to select appropriate elective courses. 13+ credit hours of electives are required to meet the UW minimum program requirement. Student enrolled is the ESSE concurrent major program are highly encouraged to take STAT 2050 or STAT 2070 as an elective course. This concurrent major program meets the 18+ credit hours that ESS requires for a minor.

Secondary Science - Earth Science Education with Concurrent Major in Geology (GSSE), B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses

required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Earth Science Education and a concurrent major in Geology. It prepares students to teach Earth Science in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations- 17 Hours

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment-3 Hours

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)- 7 Hours

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6

(3 credits required)

- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only)- 15 Hours

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Required Geology Courses- Minimum 27 Hours

- GEOL 1100 - Physical Geology Credits: 4

OR

- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GEOL 2080 - General Field Geology Credits: 3

OR

- GEOL 4717 - Field Course in Geology Credits: 1-8
- GEOL 4820 - Capstone Credits: 3

  (Spring only course, MUST have 26 GEOL hrs completed before enrolling)

Required Additional Courses - Minimum 23 Hours

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5
- ASTR 1050 - Survey of Astronomy Credits: 4

Elective Courses:

Choose 6 courses from the following recommended list to obtain the minimum required hours.

- ATSC 2000 - Introduction to Meteorology Credits: 4
- GEOL 2050 - Principles of Paleontology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4
- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4 (Highly Recommended)
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4444 - Geohydrology Credits: 4
- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4835 - Applied/Exploration Geophysics Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3

Secondary Science - Physics Education with Concurrent Major in Physics (PHSE), B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Physics Education and a concurrent major in Physics. It prepares students to teach Physics in grades 6-12.

A minimum of 120 credit hours is required for this degree program. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is

required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Semester Only)

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6

(3 credits required)

- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6

(4 credits required)

Residency (Offered Spring Semester Only)

- EDSE 4500 - Residency in Teaching Credits: 1-16

(12 credits required)

- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Major Content

Physics Core

Introductory Courses

- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4

- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4

Choose 1 Course

- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4

Choose 1 Option

Option A

- PHYS 2320 - Physics IV: Modern Physics Credits: 3

Option B

- ASTR 1050 - Survey of Astronomy Credits: 4

AND

- ASTR 2320 - General Astronomy II Credits: 4

Option C

- ASTR 1000 - Descriptive Astronomy Credits: 3

AND

- ASTR 2310 - General Astronomy I Credits: 4

Electives

- PHYS Elective, 2000-level or higher, Minimum 2 Credits
- PHYS Elective, 3000-level or higher, Minimum 3 Credits

4000 Level Courses

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3

OR

- ASTR 4610 - Introduction to Astrophysics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3

Required Additional Science Courses

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4

- ASTR 1050 - Survey of Astronomy Credits: 4 (may be substituted for similar type of course)
- COSC 1010 - Computational Thinking and Programming Credits: 3

OR

- COSC 1030 - Computer Programming Credits: 4

OR

- PHYS 3000 - Methods of Physics Credits: 4

Required Mathematics Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Secondary Social Studies Education with Concurrent Major in History, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Social Studies Education and a concurrent major in History. It prepares students to teach Social Studies in grades 6-12.

A minimum of 120 credit hours is required for this degree. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3

- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Only)

- EDSE 3273 - Subject Matter Specific Methods I: Secondary Social Studies Education Credits: 3-6 (3 credits required)
- EDSE 4273 - Subject Matter Specific Methods II: Secondary Social Studies Education Credits: 3-6 (4 credits required)

Residency

- EDSE 4500 - Residency in Teaching Credits: 1-16 (12 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

History Core Requirements

- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3

- HIST 1251 - Wyoming History Credits: 3
- HIST 1110 - Western Civilization I Credits: 3

OR

- HIST 1320 - World History to 1500 Credits: 3
- HIST 1120 - Western Civilization II Credits: 3

OR

- HIST 1330 - World History since 1500 Credits: 3
- HIST 2000 level and above elective Credits: 3
- HIST 3020 - Historical Methods Credits: 3
- Native American content course (NAIS/HIST) Credits: 3
- 3000 or 4000-level HIST electives Credits: 12

Required Additional Content

- GEOG 1010 - Introduction to Physical Geography Credits: 3

- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3
- POLS 1000 - American and Wyoming Government Credits: 3
- ECON elective Credits: 3
- PSYC elective Credits: 3
- SOC or ANTH elective Credits: 3
- Single foreign language Credits: 8

Secondary Social Studies Education with Concurrent Major in Political Science, B.A.

This degree program leads to initial teaching licensure (leading to teaching certification).

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Education Requirements

Graduates of this program earn a Bachelor's Degree in Social Studies Education and a concurrent major in Political Science. It prepares students to teach Social Studies in grades 6-12.

A minimum of 120 credit hours is required for this degree. All major courses must be passed with a grade of C or better. A minimum UW cumulative GPA of 2.75 is required for most junior and senior level professional education courses, including

EDSE 4500 Residency in Teaching. A minimum GPA of 2.50 in major content courses is required. A minimum of 42 credits must be upper-division.

An initial background check must be completed prior to starting any field or practicum experience. Student fees cover the cost of this initial background check so work with your College of Education advisor for details.

All Professional Education requirements must be completed with a grade of C or higher.

Foundations

- EDST 2450 - Foundations of Development and Learning Credits: 3
- ITEC 2360 - Teaching with Technology Credits: 3

Completion of EDST 2450 with a minimum grade of C or better is a prerequisite for the following courses:

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 3480 - Diversity & the Politics of Schooling Credits: 3

A minimum 2.75 UW cumulative GPA is required for registration in EDST 3100 and EDST 3101.
A copy of your valid Wyoming Substitute Teaching Permit must be on file with the College of Education Student Success Center no later than the first day of class.

- EDST 3100 - Teacher as Practitioner Credits: 3

Practicum

- EDST 1200 - Practicum I Credits: 1
- EDST 2200 - Practicum 2 Credits: 1
- EDST 3101 - Practicum 3 Credits: 2

Assessment

- EDST 2250 - Educational Assessment Credits: 3

Methods (Offered Fall Only)

- EDSE 3273 - Subject Matter Specific Methods I: Secondary Social Studies Education Credits: 3-6 (3 credits required)
- EDSE 4273 - Subject Matter Specific Methods II: Secondary Social Studies Education Credits: 3-6 (4 credits required)

Residency

- EDSE 4500 - Residency in Teaching Credits: 1-16 (12 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3

Political Science Core Requirements

- POLS 1000 - American and Wyoming Government Credits: 3
- POLS 1200 - Non-Western Political Cultures Credits: 3

OR

- POLS 1250 - Introduction to Comparative Government Credits: 3
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 2460 - Introduction to Political Philosophy Credits: 3

OR

- POLS 3600 - American Political Thought Credits: 3
- POLS 48XX Credits: 3
- POLS electives Credits: 18

At least 9 hours of the 18 total must be 3000 or 4000-level
At least 6 hours of the 18 total must be related to the U.S. Constitution
Highly recommend POLS 4100 and 4110

Required Additional Content

- HIST 1211 - U.S. to 1865 Credits: 3
- HIST 1221 - U.S. From 1865 Credits: 3
- HIST 1110 - Western Civilization I Credits: 3

OR

- HIST 1320 - World History to 1500 Credits: 3
- HIST 1120 - Western Civilization II Credits: 3

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- HIST 1330 - World History since 1500 Credits: 3
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3
- ECON elective Credits: 3
- PSYC elective Credits: 3
- SOC or ANTH elective Credits: 3
- Single foreign language Credits: 8

Minor

Early Childhood Education Options

The College of Education provides a few different options in early childhood at the University of Wyoming.

Early Childhood Education minor:

Students in related bachelor's degree programs take an additional 22 credits (7 or 8 courses) of specified coursework to complete and earn the minor. This minor does not need to include an option from the following lists, but it can. If a student chooses an internship as the elective course, then that student is eligible for option 1 or 2 below. (The College of Education teaches 15-18 of the required 22

credits)

- EDEC 1020 - Introduction to Early Childhood Education Credits: 3
- FCSC 2121 - Child Development Credits: 4 BOTH PSYC2300 (3 credits) AND FCSC2122 (1 credit) -or- ONLY FCSC2121 (4 credits)

OR

- PSYC 2300 - Psychology of Child Development Credits: 3

AND

- FCSC 2122 - Child Development Lab Credits: 1 BOTH PSYC2300 (3 credits) AND FCSC2122 (1 credit) -or- ONLY FCSC2121 (4 credits)
- EDEC 2000 - Engaging Families in Early Childhood Settings Credits: 3
- EDEC 3000 - Observing Young Children Credits: 3
- EDEC 3220 - Curriculum and Learning Environments in Early Childhood Education Credits: 3
- EDEC 4320 - Oral and Written Language Acquisition Credits: 3

One approved elective (3 credits or more) from the list below:
*Note some course options taken at community colleges can meet this requirement (example EDEC 1100, 1105 or 1300).
*If students enrolled in the minor are also planning on getting their B-5 licensure or B-8 endorsement, the internship courses applicable to each option should be selected.

- EDEC 2275 - Literature for Young Children Credits: 3
- EDEL 2280 - Literature for Children Credits: 3
- FCSC 2131 - Family Relations Credits: 3
- FCSC 3119 - Parent-Child Relationships Credits: 3
- FCSC 3129 - Social Development in Young Children Credits: 3
- FCSC 3220 - Multicultural Influences on Children and Families Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3

- FCSC 4127 - Directing Preschool and Daycare Programs Credits: 3
- EDCI 4140 - Storytelling Credits: 3
- EDEC 4350 - Health Management Issues in Early Education Credits: 3
- EDEC 5220 - Children with Disabilities Credits: 3

- SPPA 2110 - American Sign Language I Credits: 4

AND

- SPPA 2120 - American Sign Language II Credits: 4

- EDCI 5580 - Internship Credits: 1-8
- FCSC 4130 - Internship in Child Development Credits: 6-8

Minor Option 1: Early Childhood Education B-5 licensure:

Students in the Human Development and Family Sciences (HDFS) degree (and other related degree options) take additional credits/courses (6 credits from either EDEC 4580/EDEC 5580 or FCSC 4130 internship *this internship could be included within the minor program making it +3 total credits) to earn licensure through several pathways (see below). *Additional to the stand alone minor but must be enrolled in minor. *(Can lead to PTSB initial licensure)*

i. HDFS students minor in early childhood leads (includes 6 credits of internship - offered by FCS) to B-5 licensure

ii. Professional Child Development (online degree) - no minor because all minor courses are required for major (includes 6 credits of internship offered - by FCS) to B-5 licensure

iii. Other related majors complete the minor and internship FCSC 4130 for B-5 licensure

Minor Option 2: Early Childhood Education B-8 endorsement:

Students in the Elementary Education degree program take an additional 7 courses to earn this add on endorsement. *Additional to the stand alone minor but must be enrolled in minor.

i. Elem Ed students who student teach in a K-3 setting and complete all minor coursework and the internship EDEC 4580 (6 credits) are eligible to earn the endorsement; 7 courses

Non-degree seeking student Early Childhood Education options:

There are two options for non-degree seeking students who already hold a bachelor's degree. These are noted on the ECE Minor ACALOG page, but these students are not undergraduates and not enrolled in the minor.

- **B-8 endorsement** for any non-degree seeking student who already holds an elementary K-6 license can take the required 19 credits of coursework and a 6-credit internship EDEC 4580 to qualify for a B-8 endorsement.
- **B-5 initial teacher license** option for non degree seeking students holding a bachelor's degree in a related area (Human Development, Psychology, Communication Disorders, etc) and complete an internship EDEC 4580 in a B-5 setting. *(Can lead to PTSB initial licensure)*

Early Childhood Special Education B-5 endorsement:

Post-baccalaureate students who already have an Elementary Education, Family Consumer Sciences/Child Development, or other related degree have the option to take an additional 8 courses (26 credits) to earn this add on endorsement. *(Can lead to PTSB certification)*

This is a pre-k program and does not prepare candidates to work in kindergarten or primary grade classrooms.

For more information, visit the web page (www.uwyo.edu/ste/early-childhood-education/early-childhood-special-education.html)

- EDEC 5220 - Children with Disabilities Credits: 3
- EDEC 5230 - Curriculum and Materials for Young Children with Disabilities Credits: 3
- EDEC 5240 - Evaluation of Young Children with Disabilities Credits: 3
- EDEC 5250 - Legal Issues in Early Childhood Special Education Credits: 2
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- EDEC 4350 - Health Management Issues in Early Education Credits: 3
- EDEC 4320 - Oral and Written Language Acquisition Credits: 3

- EDEC 5580 - Internship in Early Childhood/Early Childhood Special Education Credits: 1

English as a Second Language Minor

The minor in English as a Second Language is a 15-credit program for undergraduate preservice teachers and other fields where an understanding of the best practices in teaching and student ESL learning might prove useful.

Required Courses:

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3
- EDCI 4350 - Introduction to Second Language Acquisition Credits: 3

OR

- EDCI 5350 - Introduction to Second Language Acquisition Credits: 3
- EDCI 5430 - Theory and Methods of ESL I Credits: 3
- EDCI 5440 - Theory and Methods of ESL II Credits: 3

Choose one of the following:

- EDST 3200 - Foundations of ESL Learning Credits: 3

OR

- EDCI 4450 - Issues In Multicultural Education Credits: 3

OR

- EDCI 5580 - Internship Credits: 1-8 (3 credits required)

Additional Information:

The University of Wyoming (UW), College of Education (COE) offers English as a Second Language (ESL)- Endorsement Program (Add-on, K-12) to meet a growing need of English language learners in the nation (generally) and the state of Wyoming (specifically). Eligibility for this endorsement requires an initial teaching certificate in the state of Wyoming. The

candidates in the program are undergraduate students who are working toward Wyoming teacher certification and teachers who already possess the state of Wyoming teaching certificate. Upon completion of the ESL endorsement program, the candidates are eligible to receive the Wyoming Professional Teaching Standards Board (PTSB) endorsement. In 2017, the UW- ESL endorsement program received NATIONALLY RECOGNIZED status by meeting all the requirements and standards of the TESOL SPA (Teaching English to Speakers of Other Languages Specialized Professional Association). In 2021, the UW-ESL endorsement program received approval from the PTSB.

Graduate

Counseling, M.S.

The MS degree in Counseling program offers concentrations in school counseling and mental health counseling which prepares you to become certified as a school counselor or with the training needed to become a provisionally licensed mental health counselor.

Options

- Counseling, M.S., Concentration in Mental Health Counseling
- Counseling, M.S., Concentration in School Counseling

Curriculum Requirements

The master of science degree in counseling is a 61 credit hours program. Full-time students can complete their chosen specialty in a 2-year period if they begin courses during the summer of their initial year and complet between 6-9 credit hours each summer and 9-12 credit hours each spring and fall.

Required Courses (49 Credit Hours)

- CNSL 5060 Counseling Ethics and

Professional Issues (3 credit hours)

- CNSL 5110 Group Procedures (3 credit hours)
- 5140 Counseling and Addictions(3 credit hours)
- 5170 Career Across the Lifespan(3 credit hours)
- 5175 Human Growth and Development (3 credit hours)
- 5180 Assessment in Counseling (3 credit hours)
- 5200 Couples and Family Theory and Application (3 credit hours)
- 5210 Group Experience (1 credit hours)
- 5310 Pre-Practicum in Counseling (3 credit hours)
- 5320 Practicum in Counseling - 100 clock hours, 40 direct client hours (3 credit hours)
- 5330 Counseling Children and Adolescents (3 credit hours)
- 5340 Play Therapy (3 credit hours)
- 5350 Multicultural Counseling (3 credit hours)
- 5630 Advanced Issues in Counselor Preparation (3 credit hours)
- 5640 Diagnosis, Psychopathology and Psychopharmacology (3 credit hours)
- 5650 Counseling Theories (3 credit hours)
- EDRE 5530 Introduction to Research (3 credit hours)

Specialization Area Courses (12 Credit Hours)

School Counseling

- CNSL 5120 School Counseling Strategies and Techniques (3 credit hours)
- CNSL 5125 School Counseling II (3 credit hours)
- CNSL 5580 Supervised Internship (600 clock hours, 240 direct clienthours) (6 credit hours)

Community Mental Health Counseling

- CNSL 5130 Mental Health Counseling (3 credit hours)
- CNSL 5150 Mental Health Counseling II (3 credit hours)

Additional Information:

The UW counseling program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and is offered on campus in Laramie, or as an intensive weekend program for working professionals at UW Casper.

The UW Mental Health Counseling Program

Through small classes and clinical experiences, UW's mental health program prepares you to serve in settings that include community agencies, integrated delivery systems, hospitals, addictions treatment centers and private practice.

The UW School Counseling Program

The school counseling program equips you with the knowledge and skills to become a school leader who works with students, teachers, administrators, parents and other community members to promote culturally relevant P-12 student growth. The school counseling program allows you to earn this degree with no previous P-12 experience.

About Counseling

In UW's highly regarded counseling program, you will acquire the theoretical foundation and practical experience necessary to work with a wide-range of clients, from P-12 students to adults, families and couples.

As a counseling graduate student, you will become part of a cohort community with whom you'll study, learn and grow. You will also work with an award-winning team of faculty, who will guide you toward developing your counseling identity as you progress through your practicum and supervised internship. By the time you graduate, you will be well-prepared to step into a counseling position in any organization.

Counselor Education and Supervision, Ph.D.

The UW Ph.D. program in counselor education and supervision is targeted to students who already hold a master's degree from a CACREP-accredited institution or equivalent and are seeking to become counselor educators and advanced practitioners.

Degree Requirements

This degree requires 72 credits, 12 of which may be transferred from a CACREP accredited program.

Learning Outcome Areas Advanced Foundations

Ph.D. students with a 48-hour CACREP equivalent Master's degree are required to complete 12 semester hours of courses beyond their Master's preparation (in consultation with their adviser and committee). Ph.D. students with a 60-hour CACREP equivalent Master's program can petition up to 12 hours of their Master's coursework to fulfill this requirement.

Counseling and Supervision

- CNSL 5340 - Play Therapy Credits: 3
- CNSL 5860 - Doctoral Practicum in Counselor Education Credits: 1-8
- CNSL 5865 - Supervision Theory Credits: 3
- CNSL 5875 - Doctoral Practicum in Supervision Credits: 1-6

Teaching, Leadership and Advocacy

- CNSL 5871 - Doctoral Seminar I: Professional Identity and Ethics Credits: 3
- CNSL 5872 - Doctoral Seminar II: Diversity and Social Change Credits: 3
- CNSL 5873 - Doctoral Seminar III: Research, Assessment & Scholarship Credits: 3

- CNSL 5874 - Doctoral Seminar IV: Leadership, Consultation and Advocacy Credits: 3
- PRST 5070 - Introduction to College Teaching Credits: 3
- CNSL 5990 - Internship Credits: 6

Research and Scholarship

12 credits chosen from the following (or equivalent) in consultation with major adviser and graduate committee.

- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5610 - Educational Research: Group Comparison Research Credits: 3
- EDRE 5620 - Correlational Research Credits: 3
- EDRE 5630 - Educational Research IV: Multivariate Research Credits: 3
- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE 5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3
- EDRE 5650 - Adv. Qual Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3

Dissertation

- PRST 5980 - Dissertation Research Credits: 1-12

Total: 72 Credits

Additional Information:

Doctoral students are required to have completed a minimum of a 48-hour Master's degree from a program of study equivalent to a CACREP accredited Masters program in Counselor Education. These requirements are based upon the 2015 CACREP Standards.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.
- Three (3) years of P-12 teaching experience or its equivalent.
- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Curriculum and Instruction, Ph.D., Concentration in Curriculum Studies

Offered online with a residency component, the UW curriculum and instruction program allows you to choose from among four concentrations to satisfy many of your requirements at a distance or face-to-face residency experiences.

Required Courses

REQUIRED COURSES (80 CREDIT HOURS)

Program Knowledge Base
Students must take 6 credit hours of the required courses listed below.

- PRST 5610 Intro to Doctoral Studies (3 credit hours)

- EDCI 5810 Writing for Professional Publication (3 credit hours)

Students must then select an additional 6 credit hours of elective courses. Course selection is subject doctoral committee approval.

- EDCI 5600 Diversity in Education (3 credit hours)

- EDCI 5800 Curriculum Development (3 credit hours)

- EDAD 5720 - Educational Leader as Change Agent (3 credit hours)

- EDAD 5650 - Educational Leader as Communicator (3 credit hours)

- EDCI 5665 History & Philosophy of Education (3 credit hours)

- EDCI 5730 Learning & Cognition (3 credit hours)

- PRST 5900 Practicum in College Teaching (3 credit hours)

- Other graduate-level courses determined in consultation with committee

Advanced Research Courses
Students must take 6 credit hours of the required courses listed below.

- EDRE 5600 - Ed Research 1: Descriptive (3 credit hours)

- EDRE 5640 - Intro to Qualitative Research (3 credit hours)

Students must then select an additional 6 credit hours of elective research courses. Course selection is subject doctoral committee approval.

- EDRE 5121 - Ethics in Reseach and Professional Practice (3 credit hours)

- EDRE 5530 - Introduction to Research (3 credit hours)

- EDRE 5550 - Action Research (3 credit hours)

- EDRE 5610 - Ed Research 2: Group Comparison (3 credit hours)

- EDRE 5620 - Ed Research 3: Correlational (3 credit hours)

- EDRE 5630 - Ed Research 4: Multivariate (3 credit hours)

- EDRE 5650 - Advanced Qualitative Research Methods (3 credit hours)

- EDRE 5870 - Mixed Methods or other Seminar (3 credit hours)

- Other graduate-level research course determined in consultation with committee

Practicum/Internship
Two credit hours. Must be determined with doctoral committee.

- EDCI 5580 - Internship (2 credit hours)

Curriculum and Instruction Specialization
Students must select a minimum of 15 credit hours around one area at the 4000 level or better; courses below are menu options, not requirements Course selection is subject doctoral committee approval.

- ITEC 5030 Introduction to Online Teaching (3 credit hours)

Foundations of Education

- ADED 5050 Learning Theories for Education (3 credit hours)

- ADED 5510 Adult Ed Movement in the US (3 credit hours)

- ADED 5680 Issues in Higher Education (3 credit hours)

- ADED 5710 International and Comparative Education (3 credit hours)

- EDCI 5665 History & Philosophy of Education (3 credit hours)

- EDCI 5050 MSGI Issues in Education (3 credit hours)
- ADED 5260 Educational Issues in Race, Class & Gender (3 credit hours)
- FCSC 5114 Human Lifespan Development (3 credit hours)
- FCSC 5117 Understanding Community Leadership (3 credit hours)
- FCSC 5122 Developmental Contexts Across the Lifespan (3 credit hours)
- EDCI 5070 International Issues in Education (3 credit hours)
- Other graduate-level coursework determined in consultation with committee (3 credit hours)

Early Childhood/Elementary Education

- EDCI 5140 Storytelling (3 credit hours)
- EDCI 5160 Recent Trends in Children's Literature (3 credit hours)
- EDEC 5210 Special Topics in Early Childhood Education (3 credit hours)
- EDCI 5050 MSGI Issues in Education (3 credit hours)
- ADED 5260 Educational Issues in Race, Class & Gender (3 credit hours)
- EDEC 5240 Eval Young Children W/Disabilities (3 credit hours)
- EDEC 5220 Children with Disabilities B-5 (3 credit hours)
- EDEC 5230 Curriculum for Young Children with Disabilities (3 credit hours)
- EDEC 5250 Legal Issues in Early Childhood Special Education Health Management (3 credit hours)
- EDEC 4350 Issues in Early Childhood Special Education (3 credit hours)
- FCSC 4124 Families of Young Children with Special Needs (3 credit hours)

- FCSC 5120 Infancy and Toddlerhood (3 credit hours)
- FCSC 5129 Seminar in Child Development (3 credit hours)
- FCSC 5132 Seminar in Family Studies (3 credit hours)
- FCSC 5112 Family Decision and Resource Management (3 credit hours)
- FCSC 5138 Family Stress/Coping (3 credit hours)

American Indian Education

- EDCI 5110 Educational Foundations of American Indian Education (3 credit hours)
- EDCI 5121 History and Philosophy of American Indian Education (3 credit hours)
- EDCI 5130 Cultural Foundations of American Indian Education (3 credit hours)
- EDCI 5141 Instructional Methods in American Indian Education (3 credit hours)
- Other graduate-level coursework determined in consultation with committee (3 credit hours)

English as a Second Language

- EDCI 5350 Introduction to Second Language Acquisition (3 credit hours)
- EDCI 5430 ESL Theory and Methods I (3 credit hours)
- EDCI 5440 ESL Theory and Methods II (3 credit hours)
- EDCI 5760 Social Literacies (3 credit hours)
- Other graduate-level coursework determined in consultation with committee (3 credit hours)

Secondary Content Area

- 15 hours of content-area graduate-level coursework determined in consultation with committee

Dissertation in Practice
Students must take all 12 credit hours listed below**.**

- EDCI 5980 - Dissertation Research (6 credit hours)

- EDRE 5660 Dissertation Prospectus Writing (6 credit hours)

OTHER REQUIREMENTS

After coursework is completed, you mush satisfy the below requirements before completing your program and gaining your doctoral credential.

- **Preliminary Exam** - After completing your coursework you will need to take a preliminary exam.

- **Program Outcomes** - You must submit written demonstration to show you have met the learning outcomes determined by your program, department, or committee.

- **Dissertation** - After your preliminary exam, you will present and defend your doctoral dissertation.

- **Residency** - You must satisy all requirements of your residency.

Additional Information:

Application Process:

Applications for the Doctor of Philosophy in Curriculum and Instruction, Curriculum Studies concentration are due **September 1** for spring semester admission and **February 1** for summer or fall semester admission.

Applications for the PhD in Curriculum Studies are only reviewed two times per year: immediately after September 1 and immediately after February 1. If you require an earlier decision, please apply for the deadline a year prior to ensure your application can be reviewed in time for planning international study.

Minimal Admissions Criteria for PhD Program

Applicants must meet the following criteria to be considered for admission; however, meeting minimal admissions criteria does not automatically ensure admission to the program.

- Master's degree from an accredited institute of higher education.

- It is highly recommended these courses are taken prior to admission, but can be taken within the first semesters of admission to the PhD Program. EDRE 5530 Intro to Research, EDCI 5000 Principles of Curriculum, EDCI 5450 Issues in Multicultural Education, and EDCI 5790 Advanced Instructional Strategies, or equivalent coursework.

- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample, an indicator of the applicant's proficiency in writing. For a full description of the letter of intent and scoring categories, see guideline below.

- Three (3) years of P-12 teaching experience or its equivalent.

- Copy of GRE scores, current within the last five years.

- Three letters of recommendation, completed by an individual familiar with the applicant's academic performance, a current or recent supervisor, and/or a selected colleague and/or community member.

- Transcript evaluation for undergraduate/graduate degree completion, reflecting a minimum 3.0 GPA on a 4.0 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.

- A TOEFL score of 525 (paper-based), 197 (computer-based) or above is required for international students. Students may occasionally be admitted provisionally with lower test scores.

- Submission of all required supplemental materials:

Required Supplemental Materials

- Three Letters of Recommendation

- Sample of academic writing

- Transcripts reflecting most recent degree (3.0 GPA on a 4.0 scale required) from an accredited institution plus transcripts from all other schools attended. Unofficial transcripts can be submitted through the online application. Official ones will be required if admitted.

- Copy of GRE scores

- Letter of Intent describing career goals and reasons for pursuing a graduate degree at the University of Wyoming

- Resume

- Demonstration of teaching experience

- A TOEFL score of 525 (paper-based), 197 (computer exam) or above is required for international students. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Please note that meeting minimal admissions criteria does NOT automatically ensure admission to a program.

Guidelines for Letter of Intent

A letter of intent must be submitted with other required admissions materials. The letter of intent serves as a writing sample, an indicator of the applicant's proficiency in writing. The admissions committee will be examining both the quality of the written sample and the depth of its content. In the letter of intent please address the following questions:

- Teaching Experiences: Provide a detailed description of your teaching experiences including how many years you have taught as well as what grades and/or subjects you

have taught. Describe crucial aspects of your teaching experience and how you have developed as a teacher as a result of these experiences. Finally explain how your teaching background will influence your graduate studies.

- Personal Strengths: Explain what you will bring to our program and your classes that may demonstrate your ability to be a successful graduate student and ability to contribute to the learning environment.

- Academic Goals: Describe in detail why you wish to pursue a Doctor of Education in Curriculum and Instruction, including why you want to do so at this time and how you are planning to use the degree in the future. Include a description of specific areas of study you are interested in and include your goals for graduate study and why these goals are important?

- Potential Advisor(s): If you have communicated with a professor(s) in your area of interest and/or she or he has indicated willingness to work with you on your doctorate degree program, please include her or his name in your letter.

The letter should be typed (double-spaced) on 8.5 by 11 inch paper. Letters of intent will be scored by a rubric that evaluates two areas:

- Ideas/Content Development; and,

- Organization/Structure/Mechanics/Format.

Each category is ranked as Outstanding, Proficient, Marginal, or Deficient. An overall score of Proficient is required for acceptance to the Doctor of Philosophy degree program.

Guidelines for Academic Resume

Include the following in your resume:

- Personal Information: Name and Contact Information (Address, Phone numbers, email)

- Education: Institution, City, State, Dates Attended, Major, and Degree

- Work Experience: Dates, Job Title, Employer, City, State

- Professional experiences such as: Publications, Presentations and Grants; Continuing Education Activities, Awards/Honors Received; Community and Volunteer Activities; Professional Memberships; other pertinent information

General Requirements for Curriculum & Instruction PhD in Curriculum Studies

Minimum of 81 total credits required. Students may transfer up to 30 credits from a master's degree program completed at an accredited institution.

Residency Information

PhD Program Requirements | College of Education

If you feel that you have met any degree requirements through a previously obtained master's degree or coursework at another institution, contact your advisor to determine the correct procedure. Note that the Introduction to Doctoral Studies course requirement may not be waived.

Minimum of 79 total credits required in the following areas:

Core courses (minimum of 9 credits)

All PhD option areas require PRST 5610 (Intro to Doctoral Studies). In addition, doctoral students, with direction from their committees, will choose a minimum of two additional courses from the remaining five core courses:

- PRST 5900 (Practicum in College Teaching)

- EDCI 5600 (Diversity)

- EDCI 5810 (Writing for Publication)

- EDCI 5730 (Learning and Cognition)

- EDAD 5720 (Leader as Change Agent)

- EDRE 5660 (Dissertation/Thesis Prospectus Writing)

Cognate courses and advanced courses (minimum of 18 credits)

Advanced research courses (minimum of 12 credits)

Dissertation Hours

All PhD Students are required to have a minimum of 12 dissertation credit hours.

Other Requirements

- Preliminary exam (after coursework is completed): Guidelines determined by program, department, or committee

- Program Outcomes: Written demonstration is required to show PhD outcomes are met (determined by program, department, or committee)

- Dissertation (after preliminary exam): Guidelines determined by program, department, or committee

- Residency (check with program area for specific requirements)

Notes: These requirements for a PhD in Education are minimum requirements only. Refer to specific program options for additional requirements, including admissions criteria. Options approved prior to May 2009 may have different requirements.

Curriculum and Instruction, Ph.D., Concentration in Literacy Education

Offered online with a residency component, the UW curriculum and instruction program allows you to choose from among four concentrations to satisfy many of your requirements at a distance or with face-to-face experiences.

Required Courses

REQUIRED COURSES (79 CREDIT HOURS)

Program Knowledge Base
Students must complete 9 hours of core courses. You must take the required course listed below and then select an additional 6 credit hours of courses in consultation with your doctoral advisor and committee.

- PRST 5610 - Introduction to Doctoral Study (3 credit hours) *Required*

Electives chosen in consultation with committee:

- EDCI 5600 - Diversity in Education (3 credit hours)

- EDRE 5660 - Proposal Writing (3 credit hours)

- EDAD 5720 - Educational Leader as Change Agent (3 credit hours)

- EDCI 5810 - Writing for Professional Publication (3 credit hours)

- CNSL 5900 - Practicum in College Teaching (3 credit hours)

Advanced Research Courses

Students must take a minimum of 12 hours of research methods in quantitative, qualitative, or other methodologies. Student must take the required courses listed below and then select an additional 3 credit hours of courses in collaboratioin with the thier doctoral advisor and committee.

- EDRE 5530 - Introduction to Research (3 credit hours) *Pre-requisite if not taken as part of the master's work. Does not meet doctoral level requirements.*

- EDRE 5600 - Ed Research 1: Descriptive (3 credit hours) *Required*

- EDRE 5640 - Intro to Qualitative Research (3 credit hours) *Required*

Electives chosen in consultation with committee:

- EDRE 5610 - Ed Research 2: Group Comp. (3 credit hours)
- EDRE 5620 - Ed Research 3 - Correlational (3 credit hours)
- EDRE 5630 - Ed Research 4: Multivariate (3 credit hours)
- EDRE 5550 - Action Research (3 credit hours)
- EDRE 5645 - Phenomenology, Case Study, Grounded Theory (3 credit hours)
- EDRE 5655 - Ethnography & Narrative Inquiry (3 credit hours)
- EDRE 5870 - Introduction to Discourse Analysis (3 credit hours)
- EDRE 5670 - Mixed Methods Research (3 credit hours)

Literacy Education Concentration
A student must enroll in all 21 credit hours listed below. If additional courses are needed, they can be selected from graduate-level courses within the literacy program or from other relevant academic departments at the UW. Course selection decisions will be made collaboratively by the doctoral student, their advisor and committee.

- LTED 5480 - Issues in English as a Second Language and Bilingual Education
- LTED 5800 - Theoretical Perspectives on Literary Processes and Practices
- LTED 5810 - Theoretical Perspectives on Writing
- LTED 5830 - Review, Critique, and Synthesis of Literacy Research
- LTED 5850 - Foundational Scholars in Social Science Research
- LTED 5860 - History of Literacies
- LTED 5880 - Public Digital Scholarship

Dissertation Hours
Students must enroll in a minimum of 12 hours of dissertation research credit during the period they plan, implement, and defend their dissertation.

- EDCI 5980 Dissertation Research (6 credit hours) *Required*

- EDRE 5660 Dissertation Prospectus Writing (6 credit hours)

OTHER REQUIREMENTS

After coursework is completed, you mush satisfy the below requirements before completing your program and gaining your doctoral credential.

- **Preliminary Exam -** After completing your coursework you will need to take a preliminary exam.

- **Program Outcomes -** You must submit written demonstration to show you have met the learning outcomes determined by your program, department, or committee.

- **Dissertation -** After your preliminary exam, you will present and defend your doctoral dissertation.

- **Residency -** You must satisy all requirements of your residency.

Additional Information:

Graduate students will take advanced coursework in Literacy Education, collaborate with faculty on grants and research projects, and have the opportunity to teach and supervise students in undergraduate literacy education courses. In addition to acquiring a breadth of knowledge in foundational areas in literacy education, students will have an opportunity to focus on specific areas in literacy education, such as Emergent Literacy, Family Literacy, Early Childhood Literacy, Elementary Grade Literacy, Adolescent Literacy, Disciplinary Literacy, Children's and Young Adult Literature, English Education, Literacy Teacher Education, New Literacies, Evaluation and Instruction of Students with

Reading Difficulties, Literacy Education for English Learners, and Literacy Education for Culturally Diverse Students.

Application Process

For students to be considered for admission to the PhD in Literacy Education program, they must:

- **Submit all application materials. Please note: Preference will be given to applicants who apply on or before February 1 each year for the following year.**

Deadlines

- Applications for program are due **September 1** for spring semester admission and **February 1** for summer or fall semester admission.

- Complete an online application to the Literacy Education PhD Program. Submit supporting materials with the online application (see below).

- Have a minimum cumulative GPA of 3.00 in prior undergraduate or graduate work

- Interview with Literacy Education Program faculty, either in person or via telephone

- Master's degree is preferred

Supporting materials include:

- A current resume or vita;

- A detailed letter that expresses why the applicant wishes to pursue a PhD in Literacy Education, including the applicant's career goals; the applicant's prior experiences in literacy or literacy education (e.g., relevant teaching or other educational experiences); previous university degrees, programs, certificates, or emphases related to literacy; potential areas of focus in a literacy doctoral program; potential research interests; and any other information the applicant considers to be relevant to her or his admission;

- Three Letters of Recommendation from those who can speak to the applicant's intellect, scholarly abilities, teaching ability, or other qualifications for doctoral study. These letters typically would be former professors, supervisors, or administrators;

- An official report of the Graduate Record Examination (GRE) that was taken within the preceding 5 years;

- An Application for a Graduate Assistantship should the student wish to seek one;

- An academic writing sample is not required, but is preferred.

- TOEFL or IELTS test is required for international students. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Coursework:

A minimum of 54 hours beyond the master's degree are required as follows:

- Research: A minimum of 12 hours of research methods in quantitative, qualitative, or other methodologies are required. The courses will be selected collaboratively by the doctoral student and her or his PhD advisor and committee such that the research methodology training is thorough, rigorous, and compatible with the student's dissertation research plans and anticipated career research focus.

- Core: Students must complete 9 hours of core courses. Students must enroll in PRST 5610,"Introduction to Doctoral Study," and two of the following courses selected collaboratively by the doctoral student and her or his PhD advisor and committee:

- PRST 5900 Practicum in College Teaching

- EDCI 5600 Diversity in Education

- EDCI 5810 Writing for Professional Publication

- EDCI 5730 Learning Theories: Research & Praxis

- EDCI 5665 History & Philosophy of Education

- **Literacy Education:** A minimum of 21 hhours of doctoral literacy coursework is required, which includes the following seven courses (i.e., LTED 5800, 5880, 5860, 5830, 5850, 5480, and 5810). Additional courses may be selected from existing and new advanced, graduate-level courses within the Literacy Program Area; from courses in other departments in the College of Education; and from other relevant academic departments at the University (e.g., Anthropology, Communication Disorders; English, Family and Consumer Sciences; African American, Chicano, American Indian, or Women's Studies; Psychology, Sociology). Course selection decisions will be made collaboratively by the doctoral student in consultation with the student's PhD advisor and committee based on the doctoral student's prior graduate work and post-doctorate career goals.

- **Dissertation Research:** Students must enroll for a minimum of 12 hours of dissertation research credit durig the period they plan, implement, and defend their dissertation.

- **Preliminary Examination:** The Preliminary Examination (also called the Comprehensive Examination) for the PhD in Literacy Education is governed by policies specified in Chaper 1 of the UW Student Handbook/Thesis & Dissertation Format Guide. Program-specific procedures for the preliminary examination for the PhD in Literacy Education are as follows

Research Apprenticeship:

Doctoral students are required to participate in a research apprenticeship in which they work closely with a faculty member in order to gain experience and skills in conducting research. The apprenticeship may involve an ongoing faculty project or may be a project

initiated by the student and faculty member. Examples of acceptable apprenticeships include:

- writing an IRB or grant proposal
- collecting and analyzing data (e.g., a qualitative analysis, a statistical analysis)
- writing a research report for publication independently or collaboratively with a faculty member
- presenting theoretical or empirical work at a professional conference independently or collaboratively with a faculty member
- a project that enhances the student's ability to conduct rigorous educational research.

The Research Apprenticeship must be approved in advance by the doctoral committee, and at the committee's discretion, students may enroll for independent study graduate credit as part of the Research Apprenticeship experience

Curriculum and Instruction, Ph.D., Concentration in Mathematics Education

Mathematics Education is a new specialization in the UW Curriculum and Instruction doctoral program which includes the creation of innovative emphases and approaches for solidly prepared scholar-leaders for the field of Mathematics Education.

Required Courses

- **Program Knowledge Base**

Select 15 credit hours from the below list. Students should consult their advisor before

choosing to take either EMAT 5150 or EMAT 5160.

- EMAT 5150
- EMAT 5160
- EDCI5600 - Diversity in Education Credits: 3
- EDCI5730 - Learning and Cognition Credits: 3
- EDAD5720 - Educational Leader as Change Agent Credits: 3
- EDAD5650 - Educational Leader as Communicator Credits: 3
- EDRE5660 - Dissertation/Thesis Prospectus Writing Credits: 3
-

- **Mathematics Education Specialization**

Students must take all 18 credit hours listed below.

- EMAT5100 - Theory and Research for Mathematical Learning Credits: 3
- EMAT5200 - Advanced Study of Mathematics Curriculum, Assessment, and Evaluation Credits: 3
- EMAT5300 - Theory and Practice for Mathematics Teaching and Teacher Education Credits: 3
- EMAT5400 - Analysis and Critique of Research in Mathematics Education Credits: 3
- EMAT5600 - Quantitative Reasoning & Modeling in Mathematics and Science Education Credits: 3
- EMAT5700 - Principles and Methods for Integrated Teaching & Learning Mathematics & Science Credits: 3
- EMAT Culture, Power and Identity in Mathematics Education, Credits: 3
-

Advanced Research Courses

Select 9 credit hours from the below list. Coursework in both qualitative and quantitative research is required and courses can be taken outside the College of Education. Course selection is subject doctoral committee approval.

- EDRE5600 - Introduction to Quantitative Research Credits: 3
- EDRE5610 - Educational Research: Group Comparison Research Credits: 3

- EDRE5620 - Educational Research: Correlational Research Credits: 3
- EDRE5630 - Educational Research IV: Multivariate Research Credits: 3
- EDRE5550 - Action Research Credits: 3
- EDRE5640 - Introduction to Qualitative Research Credits: 3
- EDRE5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3
- EDRE5670 - Mixed Methods Research Credits: 3

- **Practicum/Internship**

Two credit hours. Must be determined with doctoral committee.

- EDCI5580 - Internship1 Credits: 8

- **Dissertation in Practice**

Students must take a minimum of 6 credit hours**.**

- EMAT5980 - Dissertation Research Credits: 1-12

Additional Information:

Deadlines

Applications for program are due **September 1** for spring semester admission and **February 1** for summer or fall semester admission.

Application Materials

All supporting materials should be submitted through the online application system.

Required materials for consideration into the Curriculum & Instruction PhD program in Mathematics Education include:

- Writing sample (an article, master's thesis, or well done project/course paper)

- An application letter, which discusses yourself, your experience, and your potential research interests

- A resume or curriculum vita

- Three letters of reference

- Transcripts from all universities attended. Unofficial transcripts can be loaded to the online application system, but if admitted to the University, official transcripts will need to be sent prior to beginning the program

- Copy of GRE scores

- International students must submit scores for a language proficiency exam, such as TOEFL or IELTS. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

- Master's degree in mathematics, mathematics education, or a related area is required

- A minimum of three years of teaching experience is required

Program Requirements

Overall, the doctoral program will require at least 81 semester hours completed within a coherent program of study developed and approved by the candidate's Major Professor and Doctoral Committee (which may include transferring up to 30 approved graduate semester hours from work completed toward a master's degree).

The overall structure includes:

Course Type	Hours Required
College-wide core	9 hours
Mathematics	9 hours
Mathematics Education	18 hours

Electives	21 hours
Research & dissertation	24 hours
Total	**81 hours**

To satisfy Mathematics Education hours (18), the following EMAT courses (four required and two joint electives with Science Education) are offered:

Theory and Research for Mathematical Learning and Development
Theory and Practice for Mathematics Teaching and Teacher Education
Advanced Study of Mathematics Curriculum, Assessment and Evaluation
Analysis and Critique of Research in Mathematics Education
Quantitative Reasoning and Modeling in Mathematics and Science Education
Principles and Methods for Integrated Teaching and Learning of Mathematics and Science

These advanced Mathematics Education courses along with graduate study in Mathematics and Statistics, and Quantitative and Qualitative Research Methodologies, collectively build knowledge of theoretical and empirical perspectives to lead to a solid competence for engaging in both scholarly and practical work in the field at all levels. One program goal is to stimulate and guide each student to develop their dissertation research as a first step within a well-defined research program that can encompass the initial years of their post-doctoral scholarship.

Annual Review of Progress/Program Timeline

The following provides a framework to specify general expectations and be suggestive of the scope and sequence of the program, while realizing that all specific courses will be selected in consultation with the Major Professor and approved by the Doctoral Committee to satisfy the individual goals and needs of the student. An overall GPA of 3.0 must be maintained.

Year 1 (minimum 18 hours)

- Complete two mathematics education courses, receiving at least a B in each.

- Complete at least one college-wide core course (e.g., EDCI 5870 Introduction to Doctoral Studies)

- Complete at least one appropriate graduate mathematics course

- Complete two research methodology courses

- Completion of electives as recommended

- Identify and establish the choice of Major Professor; in consultation develop a program of study; establish the Doctoral Committee

- At year-end, submit preliminary proposal of research interests and ideas, and an annual self-evaluation; begin development of Reading List

Year 2 (minimum 18 hours)

- Complete two mathematics education courses, receiving at least a B in each.

- Complete at least one college-wide core course

- Complete at least one appropriate graduate mathematics course

- Complete two research methodology courses

- Completion of electives as recommended

- In Fall, conduct initial Doctoral Committee meeting; discuss and approve program of study; preliminary discussion of research interests

- Maintain and extend the Reading List; by mid-Spring, share it with the Doctoral Committee for review and feedback

- At year-end, submit an updated proposal of potential dissertation research, and an annual self-evaluation

- Submit a proposal to write and present a scholarly paper to a recognized mathematics education research conference (typically in

collaboration with other graduate students and/or one or more faculty members)

- Conduct Doctoral Committee meeting to finalize Reading List and to frame and plan for completion of the written comprehensive exams before the end of Fall term

Year 3 (minimum 18 hours)

- Complete all additional courses on the approved Program of Study

- Enroll in at least 6 hours of dissertation research to conceptualize and develop the dissertation research proposal (which may include a pilot or preliminary study)

- Complete oral exams, and the defense and approval of the dissertation research proposal; obtain IRB approvals as needed

- Begin dissertation research project: complete detailed plans, collect data, engage analyses, begin writing as appropriate

- Submit a scholarly manuscript to a recognized mathematics education research journal (typically in collaboration with other graduate students and/or one or more faculty members)

- Submit an annual status report and self-evaluation

Year 4/Year 5 (as needed)

- Enroll in at least 6 hours of dissertation research each semester

- Continue toward completion of the dissertation research

- Finish writing, and defend the dissertation research; present your research at a Mathematics Education colloquium

- As feasible, begin developing one or more scholarly manuscripts based upon the dissertation

- Conduct search and interviews for seeking a post-doctoral position

In the culture of our program, we seek to function as faculty and students in a

dynamic community of active scholars. As such, we acknowledge that many significant developmental experiences for doctoral students must and will take place outside formal course venues. Therefore, all students and faculty are expected to be vitally involved in ongoing research, development, and outreach projects and activities in which continuous interaction and collaboration occurs, within Mathematics Education and other disciplines.

Curriculum and Instruction, Ph.D., Concentration in Science Education

The Curriculum and Instruction PhD Program in Science Education prepares students for productive careers in apprenticeship model to produce scholarly work in science education.

Course Requirements

REQUIRED COURSES (81 CREDIT HOURS)

Program Knowledge Base
Select 9 credit hours from the below list.

- PRST 5610 - Intro to Doc Studies (3 credit hours)
- PRST 5070 - Intro to College Teaching (3 credit hours)
- EDCI 5600 - Diversity in Education (3 credit hours)
- EDRE 5660 - Proposal Writing (3 credit hours)
- EDCI 5730 - Learning and Cognition (3 credit hours)
- EDCI 5810 - Writing for Professional Publications (3 credit hours)

Advanced Research Courses
Select 18 credit hours from the below list. Coursework in both qualitative and quantitative research is required and courses can be taken outside the College of

Education. Course selection is subject doctoral committee approval.

- ESCI 5200 - Contemporary Science Education Research (3 credit hours)
- EDRE 5530 - Intro to Research (3 credit hours)
- EDRE 5610 - Ed Research 2: Group Comparison (3 credit hours)
- EDRE 5620 - Ed Research 3: Correlational (3 credit hours)
- EDRE 5630 - Ed Research 4: Multivariate (3 credit hours)
- EDRE 5640 - Intro to Qualitative Research (3 credit hours)
- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research (3 credit hours)
-

Research in Science Education
Students must take all 6 credit hours listed below.

- ESCI 5300 Research in Science Ed I (3 credit hours)
- ESCI 5350 Research in Science Ed II (3 credit hours)

Mathematics Education Specialization
Select 9 credit hours from the below list. Course selection is subject doctoral committee approval.

- ESCI 5250 - Cognition and Learning in Science and Math Education
- ESCI 5600 - History and Philosophy of Science and Mathematics Education
- ESCI 5610 - Informal Science Learning Environments
- ESCI 5630 - Science Teacher Education & K12 Professional Development
- EDCI 5870 - Special Topics in Science Education
- Relevant EMAT courses

Electives
Students should work with their advisor to select 21 credit hours to complete the elective requirement. Note that some or all of the elective courses are courses completed as part of the master's degree.)

Dissertation
Students must take a minimum of 6 credit hours.

- ESCI 5100 - Science Education Research Colloquium (1-6 credit hours)

Additional Information:

The Curriculum and Instruction PhD Program in Science Education prepares students for productive careers in scholarly inquiry at research & outreach centers and universities. In an apprenticeship model, students study with a cadre of professionally active faculty to produce scholarly work, take advanced coursework in science education, collaborate with faculty on grants and research projects, and have opportunities to teach undergraduate courses in education and science.

Program Specific Requirements

- As part of the online application, provide a letter of intent. In this letter, describe why you wish to pursue a PhD in Science Education, including your career goals; your prior experiences in science or science education (e.g., relevant teaching or other educational experiences); previous university degrees, programs, certificates, or emphases related to science; potential areas of focus in a science doctoral program; potential research interests; and any other information you consider to be relevant to your admission.

Additional Requirements and Important Information

- GRE scores are required. The admissions committee will consider the Verbal Reasoning and Quantitative Reasoning scores in its determination. Effective July 1, 2016 applicants must have GRE scores of 153 Verbal and 144 Quantitative Reasoning or higher to be considered for admission. Minimum scores do not guarantee admission. Other criteria, as well

as faculty capacity, will be considered in the admission process.

- Applicants need to contact a member of the Science Education PhD Program faculty, either in person or via telephone, to discuss career and research goals. This assists us in assigning a graduate advisor upon admission.

- Following the application review, the program faculty will make a recommendation regarding admission for Graduate Study at UW. Applicants will be notified of the decision by email. Applications will be considered at any time, but students who apply by January 15 will receive full consideration for graduate assistantships for the following academic year.

- Applicants are evaluated on alignment of research interests with those of existing faculty, clarity of application letter and goals, prior teaching or work experience, letters of recommendation, transcripts (including GPA) and previous research experience with an accompanying sample of professional writing if available, according to the Science Education PhD Admissions Rubric.

- International students must have TOEFL scores of 540 (paper based test), 76 (internet based test), 197 (computer based test) or IELTS scores of 6.5 higher. Minimum scores do not guarantee admission. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Program Details

The Curriculum & Instruction PhD. Option in *Science Education* prepares students for productive careers in scholarly inquiry at research & outreach centers and universities. In an apprenticeship model, students study with a cadre of professionally active faculty to produce scholarly work, take advanced coursework

in science education, collaborate with faculty on grants and research projects, and have opportunities to teach undergraduate courses in education and science.

Coursework

The Science Education PhD option requires a minimum of 81 semester credits of coursework and dissertation hours. As many as 30 credit hours from a Masters degree program may be applied to the PhD program, subject to committee approval.

Courses must be taken in the following areas:

- Doctoral Studies (3 courses)
- Science Education Core (3 courses)
- Research in Science Education (2 courses)
- Research methods/Graduate Science Content (6 courses)
- Science Education Research Colloquium (1-6 credits)
- Dissertation (minimum of 6 credits)

Residency

The standard residency requirement is a minimum of one (1) semester. The purpose and intent of a residency requirement is to provide close, collaborative teaching, research, and writing opportunities with faculty members. Summer terms will count toward this requirement. If personal circumstances will not accommodate a semester on campus in Laramie, contact the Program Coordinator for possible options.

Additional Expectations

In order to be successful, students need to demonstrate throughout the program an

understanding of research methodologies, data analysis, and academic writing.

Although not necessarily available for graduate credit, the following activities are expected to be completed, as approved, monitored, and assessed by a students' committee, prior to defense.

- Completed, supervised teaching internship during graduate program (e.g., GTA)
- A total of 18 graduate hours in science
- Submission of a scholarly manuscript, judged publishable by the committee
- Presentation at a professional conference on scholarly work

This program will allow students to focus on one of three areas of science education: Earth and Space, Energy, and Environment

Education, Ed.D., Concentration in Curriculum and Instruction

Pursue your PhD in Education with a concentration in Curriculum and Instruction in a program that is offered entirely online! Continue in your current role as you gain expertise to take your career to the next level.

Required Courses

Required Courses (80 credit hours)

The Doctor of Education in Education with a concentration in Curriculum and Instruction program is 80 credit hours and all courses are delivered entirely online. You must have three years of classroom teaching

experience, a master's degree to apply to the program. Applicants must also complete EDRE 5530 - Introduction to Research or an equivalent course prior to entering the program.

Program Knowledge Base
Students must take all 15 credit hours listed below.

- EDCI 5600 - Diversity in Education (3 credit hours)
- EDCI 5730 - Learning and Cognition (3 credit hours)
- EDAD 5720 - Educational Leader as Change Agent (3 credit hours)
- EDAD 5650 - Educational Leader as Communicator (3 credit hours)
- EDRE 5660 - Proposal Writing (3 credit hours)

Advanced Research Courses
Select 9 credit hours from the below list. Coursework in both qualitative and quantitative research is required and courses can be taken outside the College of Education. Course selection is subject doctoral committee approval.

- EDRE 5600 - Ed Research 1: Descriptive (3 credit hours)
- EDRE 5610 - Ed Research 2: Group Comparison (3 credit hours)
- EDRE 5620 - Ed Research 3: Correlational (3 credit hours)
- EDRE 5630 - Ed Research 4: Multivariate (3 credit hours)
- EDRE 5550 - Action Research (3 credit hours)
- EDRE 5640 - Intro to Qualitative Research (3 credit hours)
- EDRE 5650 - Advanced Qualitative Research Methods (3 credit hours)

Practicum/Internship
Two credit hours. Must be determined with doctoral committee.

- EDCI 5580 - Internship (2 credit hours)

Curriculum and Instruction Specialization
Students must take the required courses listed below and select an additional 12 credit hours of elective courses in the Curriculum and Instruction area. Course

selection is subject doctoral committee approval.

- EDCI 5790 - Learning Theories & Instructional Principles (3 credit hours) *Required*
- EDCI 5800 - Curriculum Development (3 credit hours) *Required*

Final Project: Dissertation in Practice or Other Project Option

Students must take all 6 credit hours listed below**.**

- EDCI 5980 - Dissertation Research (6 credit hours)

Final (Applied) Project Options

Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the guidance of a

faculty member. Data can be obtained from primary or secondary sources.
Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

- A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

- A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to Mountain Scholar Digital Collections or dissertations or other projects in a dissertation format to ProQuest is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Additional Information:

Admission Requirements

Applications for the Doctor of Education (EdD) program with a concentration in Curriculum and Instruction are reviewed for admission in fall and spring semesters. All applications will be completed through the UW Admissions

website: http://www.uwyo.edu/admissions/apply.html.

Applicants are required to submit the following supplemental material:

- Letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.
- Recent GRE scores.
- Three letters of recommendation, completed by an individual familiar with the applicant's academic performance, a current or recent supervisor, and/or a selected colleague and/or community member.
- Academic Resume/Curriculum Vitae
- Transcripts
- TOEFL/IELTS scores (for international, non-native English speaking applicants). Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming.
- Three (3) years of P-12 teaching experience or its equivalent.
- Minimum 3.000 GPA on a 4.000 scale on the applicant's bachelor's degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application at the time of admission application process or consult student's advisor or school director thereinafter.

Education, Ed.D., Concentration in Educational Leadership

Offered entirely online, UW's educational leadership Ed.D. program will prepare you for top-level leadership positions in K-12 educational settings as assistant superintendents and superintendents.

Requirements

Core Educational Leadership Courses

- HIED 5630 - Advanced Organizational Leadership Credits: 3
- EDAD 5600 - Educational Leader as Manager of Human Resources Credits: 3
- EDAD 5650 - Educational Leader as Communicator Credits: 3
- EDAD 5700 - Educational Leader For Instruction Credits: 3
- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3
- EDAD 5750 - Educational Leader for the Board and Community Credits: 3
- EDAD 5800 - Educational Leader as Resource Manager Credits: 3

- EDAD 5815 - Advanced School Law Credits: 3
- EDAD 5850 - Educational Leader as Direction Setter Credits: 3

Internship

- EDAD 5580 - Supervised Internship in Educational Administration Credits: 1-8

Educational Research Courses

(at least 1 quantitative and 1 qualitative)

- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5610 - Educational Research: Group Comparison Research Credits: 3
- EDRE 5620 - Correlational Research Credits: 3
- EDRE 5640 - Introduction to Qualitative Research Credits: 3
- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE 5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3
- EDRE 5870 - Seminar Credits: 1-8

Additional Requirements:

- EDRE 5660 - Dissertation/Thesis Prospectus Writing Credits: 3
- PRST 5980 - Dissertation Research Credits: 1-12 *(a minimum of 6 credits is required)*

Additional Information:

Admission Requirements

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.
- Three (3) years of P-12 teaching experience or its equivalent.
- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Final Project Options

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

The following requirements apply to all projects:

- Research-based (literature review)
- Scholarly, academic writing using APA style
- Primary or secondary data
- Authored by individual or small groups of students
- Uploaded to **ProQuest** for dissertations of practice or other projects in a dissertation format, and uploaded to the **Mountain**

Scholar Digital Collections for projects in a non-dissertation format
Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the guidance of a faculty member. Data can be obtained from primary or secondary sources.

Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

- A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

- A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to* **Mountain Scholar Digital Collections** *or dissertations of practice or other projects in a dissertation format to* **ProQuest** *is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Education, Ed.D., Concentration in Higher Education Administration

All Higher Education Administration students can work as administrators and professional staff to supervise, design, deliver, and coordinate high quality formal and informal education programs to adults across the lifespan.

Requirements

Higher Education Administration Courses

- EDAD 5720 - Educational Leader as Change Agent Credits: 3
- EDAD 5850 - Educational Leader as Direction Setter Credits: 3
- HIED 5260 - Educational Issues Race, Class, and Gender Credits: 3
- HIED 5600 - Higher Education Finance Credits: 3
- HIED 5630 - Advanced Organizational Leadership Credits: 3
- HIED 5640 - Leadership Development Credits: 3
- HIED 5650 - Law of Higher Education Credits: 3

- HIED 5670 - Community College Issues and Leadership Credits: 3
- HIED 5680 - Issues in Higher Education Credits: 3

Educational Research Courses

- EDRE 56XX First Research Course (3 credit hours)
- EDRE 56XX Second Research Course (3 credit hours)
- EDRE 56XX Third Research Course (3 credit hours)

Additional Courses

- EDRE 5660 - Dissertation/Thesis Prospectus Writing Credits: 3
- PRST 5980 - Dissertation Research Credits: 1-12 (6 credit hours required)

Additional Information:

The Ed.D. is the terminal professional degree in education designed for students who desire to improve their professional practice as educators. The Ed.D. is delivered through distance delivery system and requires a minimum of 77 semester hours beyond the bachelor's degree, of which 41 hours must be taken in the student's chosen field, and 6 hours of dissertation. Candidates may, with the approval of the faculty, transfer up to 30 semester hours from previous graduate level coursework. A bachelor's degree and a master's degree are required of all students to be admitted to the Ed.D. program.

Required on-campus orientation during first fall semester.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals,

teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.

- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

The following requirements apply to all projects:

- Research-based (literature review)
- Scholarly, academic writing using APA style
- Primary or secondary data
- Authored by individual or small groups of students
- Uploaded to **ProQuest** for dissertations of practice or other projects in a dissertation format, and uploaded to the **Mountain Scholar Digital Collections** for projects in a non-dissertation format

Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the guidance of a faculty member. Data can be obtained from primary or secondary sources.

Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

- A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

- A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to* **Mountain Scholar Digital Collections** *or dissertations of practice or other projects in a dissertation*

format to **ProQuest** *is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Please note: After submitting the required steps for the Mountain Scholar Digital Collections you will receive a confirmation email. Please forward this email to your chair, Clayleen Rivord in the College of Education Dean's Office, and Robert Ratterree in the Office of the Registrar**.**

Education, Ed.D., Concentration in Learning, Design, and Technology

The Ed.D. in Learning, Design and Technology will provide students with advanced research methods to study, identify, and evaluate educational opportunities in various settings.

Requirements

The Ed.D. program requires a minimum of 81 credit hours beyond the bachelor's degree. Candidates may, with the approval of the committee, transfer up to 30 credit hours from previous graduate-level coursework in a closely related field. The program is delivered online with the exception of some of the spring residencies.

The theory, research, and resulting instructional principles are addressed in courses in the following areas: (a) instructional design, visual literacy, and change (b) media development and production; and (c) instructional management, implementation, and technology integration. Graduate students in the program can take all of their coursework online. The EdD uses a Dissertation in Practice format for dissertation research. UW is a member of the Carnegie Project on the Education Doctorate.

Foundational Knowledge Base

Students may transfer up to 30 credits toward the total program from a related master's degree. Transfer credits need to be accepted by the program faculty. If a student lacks credits in this area, they may take courses available through the Learning, Design, and Technology MS Program.

Program Knowledge Base

Students must successfully complete all 27 credit hours listed below.

- HIED 5630 - Advanced Organizational Leadership Credits: 3
- ITEC 5660 - Interactive Learning Systems Credits: 1-3 (LDTE 5660)
- LDTE 5700 - Issues, Practice, and Research in Learning, Design, and Technology Credits: 3
- LDTE5710 (ITEC 5870) - Transformational Learning (3 credit hours)
- LDTE5720 (ITEC5870) - Critical Perspectives and Applications of Technology Intergration (3 credits)
- LDTE 5730 - Game Design & Development Credits: 3
- LDTE5740 (ITEC5870) - Global and Cultural Perspectives in LDT (3 credit hours)
- LDTE 5750 - Technology Innovations: Present & Future Credits: 3
- LDTE 5760 - Instructional Design Applications Credits: 3
- LDTE5070 (ITEC5070) - Trends (3 credit hours) [can be substituted for a relevant course]

** new LDTE prefix is in the process of phasing into the program beginning Fall 2022; ITEC is still active and counts in the program of study until transition is complete.*

Research Methods

Students must successfully complete 12 credit hours in educational research.

Required Research Courses:

- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5640 - Introduction to Qualitative Research Credits: 3
- EDRE 5660 - Dissertation/Thesis Prospectus Writing Credits: 3 *(a minimum of 6 credit hours is required)*

Additional Research Course

Select at least one additional research course:

Quantitative:

- EDRE 5610 - Educational Research: Group Comparison Research Credits: 3
- EDRE 5620 - Correlational Research Credits: 3

Qualitative:

- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE 5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3

Mixed Methods

- EDRE 5670 - Mixed Methods Research Credits: 3

Dissertation or Approved Project

Students must successfully complete the exam and dissertation process.

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

The following requirements apply to all projects:

- Research-based (literature review)
- Scholarly, academic writing using APA style
- Primary or secondary data
- Authored by individual or small groups of students
- Uploaded to **ProQuest** for dissertations of practice or other projects in a dissertation format, and uploaded to the **Mountain Scholar Digital Collections** for projects in a non-dissertation format

Suggested project formats and brief descriptions are:

Dissertation of Practice

- A dissertation of practice is original practice-based empirical research with data collection expected from primary sources.

Local Case Study

- A case study is a descriptive, exploratory, or explanatory analysis of a person, group, or event. Thomas (2011, p. 354) offered the following definition of case study: "Case studies are analysis of persons, events, decisions, periods, projects, policies, institutions, or others systems that are studied holistically by one of more methods."

Faculty Directed Individual or Team-based Inquiry

- This type of inquiry involves individual or a small group of students working together on a single project under the guidance of a faculty member. Data can be obtained from primary or secondary sources.

Documentary on an Educational Issue

- A documentary is an in-depth and extensive study with an analysis presented in video form accompanied by a written summary of the purpose and outcome.

Submitted Manuscript

- A full-length research manuscript must be submitted to a refereed mid- or top-tier national or international scholarly journal.

Program Evaluation

- A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

Additional project formats may be proposed and approved by the student's committee as long as they meet the requirements listed above.

Final Project Processes

As in the traditional dissertation process, all students are expected to meet with their committees to gain project approval (at the pre-prospectus and/or prospectus stage). The Report of Final Examination will indicate whether or not the final project is acceptable to the committee. *The deadline for submitting projects to* **Mountain Scholar Digital Collections** *or dissertations of practice or other projects in a dissertation format to* **ProQuest** *is the same as the Report of Final Examination, the last day of classes for the semester during which a student intends to graduate.* All projects will be evaluated by committee members and also by the student.

Additional Information:

Unlike the Ph.D. in Learning, Design and Technology, the Ed.D. program emphasizes applied research, culminating in the completion of a problem-based dissertation or project. Rather than leading to an academic career, the Ed.D. is designed for educators who want to contribute to the educational technology field at the highest levels of practice.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.
- Three (3) years of P-12 teaching experience or its equivalent.
- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Required on campus orientation during first fall semester.

The Ed.D. is the terminal professional degree in education designed for students who desire to improve their professional practice as educators. The program moves beyond the foundations of distance education, instructional design, and technology integration to focus on advanced application and research. Students apply design, development, and evaluation principles to explore authentic challenges and develop real solutions in diverse settings (e.g., K-12 education, corporate and government centers, and higher education institutions). Through these experiences, students learn how to use advanced research methods to explore workplace problems, design and deliver solutions, and implement and evaluate change. Emphasis is placed on in-depth mentoring and collaboration, advanced research, development of real-

world applications, and training solutions offered through distance delivery platforms.

Education, Ed.D., Concentration in Mathematics Education

The PhD in Education with a concentration in Mathematics Education equips you with cutting-edge applied research skills, mathematics pedagogy expertise, and a commitment to issues of equity, inclusion and social justice.

Required Courses

Program Knowledge Base
Select 15 credit hours from the below list. Students should consult their advisor before choosing to take either EMAT 5150 or EMAT 5160.

- EMAT 5150
- EMAT 5160
- EDCI 5600 - Diversity in Education Credits: 3
- EDCI 5730 - Learning and Cognition Credits: 3
- EDAD 5720 - Educational Leader as Change Agent Credits: 3
- EDAD 5650 - Educational Leader as Communicator Credits: 3
- EDRE 5660 - Dissertation/Thesis Prospectus Writing Credits: 3

Mathematics Education Specialization
Students must take all 18 credit hours listed below.

- EMAT 5100 - Theory and Research for Mathematical Learning Credits: 3
- EMAT 5200 - Advanced Study of Mathematics Curriculum, Assessment, and Evaluation Credits: 3
- EMAT 5300 - Theory and Practice for Mathematics Teaching and Teacher Education Credits: 3

- EMAT 5400 - Analysis and Critique of Research in Mathematics Education Credits: 3
- EMAT 5600 - Quantitative Reasoning & Modeling in Mathematics and Science Education Credits: 3
- EMAT 5700 - Principles and Methods for Integrated Teaching & Learning Mathematics & Science Credits: 3
- EMAT Culture, Power and Identity in Mathematics Education, Credits: 3

Advanced Research Courses
Select 9 credit hours from the below list. Coursework in both qualitative and quantitative research is required and courses can be taken outside the College of Education. Course selection is subject doctoral committee approval.

- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5610 - Educational Research: Group Comparison Research Credits: 3
- EDRE 5620 - Correlational Research Credits: 3
- EDRE 5630 - Educational Research IV: Multivariate Research Credits: 3
- EDRE 5550 - Action Research Credits: 3
- EDRE 5640 - Introduction to Qualitative Research Credits: 3
- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE 5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3

Practicum/Internship
Two credit hours. Must be determined with doctoral committee.

- EDCI 5580 - Internship Credits: 1-8

Dissertation in Practice
Students must take a minimum of 6 credit hours**.**

- EMAT 5980 - Dissertation Research Credits: 1-12

Additional Information:

Offered entirely online, you can pursue the Ed.D. in mathematics education while you continue in your current postition. Learn and bond with the same group of students during the course or your Ed.D. studies- our program is cohort-based.

Admission Requirements

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.
- Three (3) years of P-12 teaching experience or its equivalent.
- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Final Project Options

All Doctor of Education students will use research methods to explore practical leadership problems. Applied projects are problem-based and may be collaborative. Projects may involve evaluating curriculum, designing and implementing professional development or training, developing applications to be used in local settings (e.g., early childhood-12 education, corporate and government centers), as well as other projects designed to advance knowledge in a specific field or setting.

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Documentary on an Educational Issue

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Submitted Manuscript

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- A program evaluation report typically uses both qualitative and quantitative research methods to examine and collect data on a current program that is in place in a school or another organization.

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Please note: After submitting the required steps for the Mountain Scholar Digital Collections you will receive a confirmation email. Please forward this email to your chair, Clayleen Rivord in the College of Education Dean's Office, and Robert Ratterree in the Office of the Registrar**.**

Education, M.A., Concentration in Curriculum and Instruction

This program will help you become the teacher who advocates for students, mentors younger colleagues & thinks outside conventional wisdom to leverage best practices into innovative programs and practices.

Requirements

- Minimum of 32 hours of graduate credit
- Many courses delivered using distance technologies
- Core Courses: 16 hours of program area core graduate credits
- Concentration: 15+ hours in either a certificate or endorsement program, academic content area, or general curriculum and instruction area of interest (with direction and consent of faculty adviser)

Capstone Consisting of One of the Following:

Plan A (Thesis)

- EDCI 5960 - Thesis Research Credits: 1-12 (4 graduate credits)

Plan B (Non-Thesis)

- EDCI 5090 - Plan B Research Credits: 1-3 (2 graduate credits)

National Board Certificate

- EDCI 5890 - Directed Professional Study Credits: 1-6 (1 graduate credit)

AND/OR

- EDCI 5515 - National Board Certification Seminar Credits: 1-3

C&I Program Core:

- EDCI 5500 - Classroom Assessment Credits: 3
- EDCI 5000 - Principles of Curriculum Credits: 3
- EDCI 5450 - Issues in Multicultural Education Credits: 3
- EDCI 5790 - Learning Theories and Instructional Principles Credits: 3

- EDRE 5550 - Action Research Credits: 3

OR

- EDRE 5530 - Introduction To Research Credits: 3

- EDCI 5400 - Midpoint Portfolio Ref lection Credits: 1

Areas of Concentration

- Certificates or Endorsements
- Early Childhood Special Education (see www.uwyo.edu/ste/earlychildhood-education/earlychildhood-special-education.html)
- English as a Second Language (see www.uwyo.edu/ste/curriculum-instruction/english-second-language/)
- Literacy (see www.uwyo.edu/ste/elementary-education/endorsements/certificateof-literacy.html)
- Content Studies - Math, History, Art, Music, Science, Teachers of American Indian Children
- Curriculum and Instruction Studies - focus on special education, educational leadership, diversity studies, counseling, instructional technology, etc.

Additional Information:

About Curriculum and Instruction

The UW Master of Arts in Education with the curriculum and instruction concentration is for educators with a minimum of one year teaching experience who are looking to gain a variety of pedagogical knowledge and research experience. The degree will give you the knowledge and research expertise to take your passion into a career of continuous exploration and improvement.

Offering a highly customizable program, UW's MA in curriculum and instruction allows you to pursue additional expertise in your content area, add endorsements such as literacy, ESL, early childhood special education or develop specialties in content or curriculum. You can even use your degree as a pathway to National Board Certification, which also meets your capstone project requirement.

The program is offered fully online making it possible for you to advance your career while also maintaining your current teaching schedule.

Program Specific Admission Requirements

Applications for the Master of Arts degree in Education with an Area of Concentration in Curriculum and Instruction are reviewed for admission two times each year. To be considered for admission, applications must be completed and submitted by September 1st for spring semester admission, and February 1st for summer/fall admission. Incomplete applications will not be considered. International students are encouraged to apply a semester earlier to allow sufficient time for paperwork. All applications will be completed through the UW Admissions website: http://www.uwyo.edu/admissions/apply.html.

Applicants are required to submit the following materials:

- letter of intent;
- academic resume, including information about teaching experience;
- contact information for three references;
- TOEFL or IELTS scores (for international, non-native English speaking applicants); Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.
- college transcripts.

In order to be considered for admission, applicants must meet the following minimum requirements:

- Score of 3 or 4 on a letter of intent. This letter serves as a writing sample, and takes the place of GRE scores in the admission process;

- One year of P-12 teaching experience or its equivalent. This requirement may be waived for applicants who have been admitted to the Teaching Elementary School or the Teaching Secondary Content Graduate Certificate program. Such applicants will be considered for admission on a conditional basis, pending successful completion of the Teaching Elementary School or Teaching Secondary Content Graduate Certificate program;

- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent bachelor's degree from an accredited institution;

- International, non-native English speaking applicants must have a TOEFL score of 525 (paper-based), 197 (computer exam) or above or an IELTS score of at least 6.5. Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

MA Program Requirements

Curriculum & Instruction

The Master of Arts degree in Education is offered in two options:

- Plan A, which requires writing a thesis

- Plan B, which requires a written paper based on a scholarly project

A minimum of 32 semester hours beyond the Bachelor's degree is required. All course work and degree requirements must be approved by the student's graduate committee.

The Master of Arts degree in Education consists of a set of core courses and one of three emphases: Certificates/Endorsements, Content Studies, or Curriculum Studies. All students are required to complete the core

courses and one of the three emphases. Specific courses are outlined below.

View the M.A. Degree Program Overview and Application Instructions packet for forms and details.

Core Courses: (17-20 credit hours) students are required to take core courses:

- Assessment (3 credit hours): EDCI 5500 - Classroom Assessment

- Curriculum (3): EDCI 5000 - Principles of Curriculum

- Diversity (3): EDCI 5450 - Issues in Multicultural Education

- Instruction (3): EDCI 5790 - Advanced Instructional Strategies (Learning Theories & Instructional Principles as of Fall 2017)

- Research (3): EDRE 5530 - Intro to Research or EDRE 5550 - Action Research

- Midpoint Review (1): EDCI 5400 - Portfolio Reflection (1) (EDCI 5400 represents a midpoint evaluation and must be taken no later than 2 semesters [may include a summer semester] before graduation).

- Capstone Experience (1-4): Plan A thesis (4) OR Plan B project (2) OR National Board Certification (1-3). Students, as guided by an academic advisor, may pursue a Plan A thesis or a Plan B non-thesis. Generally, one can think of the Plan A thesis as a research project that emerges when a student finds that a problem of interest has not been addressed in the research literature. A Plan B non-thesis is a research project that emerges from practice, typically involving a problem of interest within a student's school, classroom, or work site.

Emphases (15-18 credit hours with approval from Committee)

Certificates/Endorsements

- Early Childhood/ECSE (25-26 hours required-18 may be applied to elective credit)

- English as a Second Language (15 credit hours)

- Literacy (18-21 credit hours)

Content Studies (15 to 18 hours)

This specialization is intended for those practicing teachers who are pursuing the "highly qualified" status. Coursework will primarily be taken in students' content areas (e.g., History, English, etc. 4000 and 5000 level courses).

Curriculum Studies (15 to 18 hours)

This specialization is intended for those who are interested in focusing on issues of curriculum and instruction.

- Potential coursework:

National Board Certification (See below for more information)
EDCI 5800 - Curriculum Development
Research Methods
Educational Leadership
Counseling
Instructional Technology
Special Education
Literacy
English as a Second Language (ESL)
Diversity
Teachers of American Indian Children
Graduate level content courses

Capstone Experience

- EDCI 5960 Thesis/Plan A (4 credit hours)

- EDCI 5090 Plan B Research/Plan B project (2 credit hours) (EDCI 5890 Directed Professional Study prior to Summer 2017)

- EDCI 5890 Directed Professional Study/National Board Certification (1 credit hour)

TOTAL: 32 minimum semester hours

Areas of Emphasis

Certificates/Endorsements Emphasis

The Certificates/Endorsements emphasis allows practicing teachers to take

coursework toward eligibility for certificates/endorsement in Literacy, Early Childhood Education, English as a Second Language, or Teachers of American Indian Children through the state of Wyoming's Professional Teaching Standards Board. These endorsements are only available to teachers who hold valid teaching certification in the state of Wyoming.

Content Studies Emphasis

The Content Studies emphasis is designed to allow practicing teachers to pursue further education in a particular content area - such as history, English, math, etc. -- through 4000 and 5000-level courses in those content areas. This coursework may be helpful particularly in the case of practicing teachers who are pursuing "highly qualified" status in a content area. Please note that this option is based on availability of graduate courses in other departments that the student may be interested. There is no guarantee of outreach course availability.

Curriculum Studies Emphasis

The Curriculum Studies emphasis is designed for practicing educators who are interested in gaining knowledge and expertise related to curriculum and instruction.

National Board Certification

FREQUENTLY ASKED QUESTIONS

Will there be classes offered to help me proceed through the National Board Certification process?

Yes, a series of seminars and workshops are offered through the Wyoming National Board Certification Initiative each semester. Information about these seminars and workshops is posted and updated on the Wyoming NBC website: http://www.wnbci.org/. Graduate level Curriculum and Instruction credit is available for these seminars (courses listed as EDCI 5515). These courses are designed to support teachers as they grow as

professionals and simultaneously proceed through the Board Certification process and the UW Master's program.

Where will the classes be offered?

The classes are offered around the state of Wyoming to allow participation across the state. Dates and locations for upcoming seminars and workshops can be found on the Wyoming NBC website: http://www.wnbci.org/. Participants enroll in the courses through UW Outreach Credit Programs (toll free phone number: 1-800-448-7801). Up to 9 total credit hours of the seminars can be taken by enrolled graduate students. Up to 9 total seminar/workshop credit hours may be applied as electives in the Curriculum and Instruction Master's program.

Who will teach these classes?

The seminars are taught by Barbara Maguire, a Nationally Board Certified teacher and expert in the NBC process.

How many times can I take the NBC class?

Graduate students/National Board Candidates can enroll in the seminars as many times as necessary/desired. For those seeking graduate degrees, up to 9 credits can be applied to the Curriculum and Instruction Master's degree program as elective hours dependent upon the student's committee approval.

What about tuition?

Students will pay regular graduate tuition for the seminar classes. The current UW fee schedule can be found at the following website: http://www.uwyo.edu/sfa/cost_of_attendance/

Will I need to complete a Thesis or Plan B paper to finish my C&I degree? No, the NBC Portfolios will be accepted in Lieu of a Plan B Paper for teachers pursuing NBC Certification and a UW Master's degree simultaneously. This acceptance is dependent upon committee approval (not acceptance by the National Board). An agreement to utilize this procedure and

maintain portfolio confidentiality has been reached between UW and the NBPTS (National Board for Professional Teaching Standards). The NBC portfolio must be submitted and defended (in a meeting with the student's graduate committee) prior to initial submission to the NBPTS. The committee's portfolio copies will be destroyed after the defense.

Note*: The Rubric for Assessment of the presentation is provided below.*

If I am already a National Board Certified teacher, can I apply my NBC work retroactively to a graduate degree?

No, the program is designed for those working on National Board Certification and a C&I Master's degree simultaneously.

How do I apply for a UW Curriculum and Instruction Graduate Program?

The graduate application and other information can be found here.

What if I have Additional Questions?

If you have additional questions, please contact the UW Department of Curriculum and Instruction (curriculum@uwyo.edu; 307-766-6371).

Assessment Checklist for National Board Certification (NBC)

Portfolio & Presentation

Committee members will evaluate the following areas and will determine if the student/NBC candidate accomplished each of these aims/activities at a level sufficient to warrant the substitution of the NBC portfolio and presentation for the Plan B requirement. S/U (Satisfactory/Unsatisfactory) will be assigned for each area, and an overall evaluation of "S" must be achieved for portfolio to serve in lieu of the Plan B paper.

_____ Overall evaluation of the portfolio and presentation as suitable substitutes for Plan B

paper/project and defense

Presentation of NBC Portfolio to Master's Committee:

_____Student provides a brief overview of National Board Certification process and portfolio

_____Student describes process of working on the portfolio (including connections to C&I courses

taken, time commitment, assessments and data analysis, and reflections)

_____ Student presents at least one explicit connection between the portfolio documentation and

his/her C&I Master's Degree coursework (e.g. assessment strategy learned in literacy specific

course was used to evaluate student work included in NBC portfolio), and explains ways processes informed each other

_____ Student describes challenges, pleasures, difficulties associated with the NBC process

_____Student summarizes learning derived from portfolio process and completion

More information on National Board Certification:

- National Board Certification
- How to get started

Education, M.A., Concentration in

Educational Leadership

The MA in Educational Leadership is an all online program to become a K-12 principal with a Wyoming principal certification.

Degree Requirements

This degree requires a minimum of 33 credits.

Core Courses

The master's is a 33 credit program which includes the four core classes, 3 credits each:

- EDAD 5010 - Leadership for Curriculum Development Credits: 3
- EDAD 5020 - Leadership for School Organization Credits: 3
- EDAD 5030 - Leadership for School and Community Relations Credits: 3
- EDAD 5040 - Leadership for Instruction Credits: 3

Other Courses

- EDRE 5580 - Supervised Internship Credits: 1-8
- EDEX 5720 - Special Education Law Credits: 3
- EDAD 5050 - Leadership for Democratic Schools Credits: 3
- EDAD 5150 - Assessment, Accountability, and Student Learning Credits: 3
- EDRE 5530 - Introduction To Research Credits: 3
- EDAD 5080 - Introduction to School Law Credits: 3

Additional Information:

As an educator, you're already making a difference. But what if you could influence what happens on the building-level? Could you be the person who helps teachers feel

more empowered? Who knows how to bridge differences, build consensus and develop a school atmosphere where faculty, staff and families support one another in their common mission to nurture citizenship, critical thinking and a thirst for knowledge? Emphasizing courses in leadership issues specific to education such as instructional leadership, curriculum development and community relations, UW's online educational leadership program will also ground you in practice through an in-depth supervised internship in elementary, middle and high schools.

Application Deadlines

February 1 - If applying for following fall, or spring semester.

September 1 - If applying for following spring, or fall semester.

Admission Requirements

Domestic Students
GPA: 3.0
GRE: no requirement

International Students
TOEFL: 550 minimum written or 80 minimum online, OR IELTS: 6.5 minimum overall score
GRE: 147 min in each subtest and 4.0 minimum on analytical writing

Additional Requirements
Must have a minimum of 3 years teaching experience

How to Apply

Step 1: Apply to UW and the School of Counseling, Leadership, Advocacy and Design through the online applicant portal.

- Access the UW graduate applicant portal. Make sure to use the corresponding application admittance semester indicated above.
- After completing the initial information page, you will receive an email from the

system including a link and your temporary username and password.

- Please complete the contact, academic, residency information, etc.
- Submit the application fee
- Submit ALL required documents to the online document portal (see below for details)
- Agree to admissions terms and submit your application

Step 2: Submit official copies of transcripts to UW Admissions.

Required Documents

Please include ALL documents listed below in order for your application to be considered.

- A letter of intent describing why you want to be an educational leader
- A current resume
- Copy of current teaching certificate
- Unofficial copies of transcripts (official copies should be sent to UW Admissions)
- A completed principal program application. Contact the School of Counseling, Leadership, Advocacy and Design for Application; Tiffany LeGal.
- A superintendent approval form signed by the superintendent of the district where you plan to perform your internship (scan and upload) Contact the School of Counseling, Leadership, Advocacy and Design for Application; Tiffany LeGal.
- Current recommendation letters addressing leadership skills from three different referees (the portal will send a request to each of them after you enter their email addresses):
- two from referees who are familiar with your leadership skills
- current principal

Education, M.A., Concentration in Higher Education Administration

The MA in Higher Educ Admin will give you a strong foundation in the history and "business" area's in America's higher learning system while gaining expertise in learning theory and adult education.

Degree Requirements

This degree requires a minimum of 33 credits.

Program Specific Degree Requirements Master's Program

The M.A. program is a professional degree program that does not require a Plan A (thesis) or Plan B.

Required Courses

- EDRE 5530 - Introduction To Research Credits: 3
- HIED 5000 - Community College Leadership Credits: 3
- HIED 5020 - Higher Education Systems Credits: 3
- HIED 5030 - Continuing and Professional Education Credits: 3
- HIED 5040 - Higher Education Staffing Credits: 3
- HIED 5050 - Workforce Training Credits: 3
- HIED 5060 - Program Budgets and Instructions Credits: 3
- HIED 5240 - Teaching Adults Credits: 3
- HIED 5610 - Planning and Evaluation of Instructional Systems Credits: 3
- HIED 5660 - Community College Credits: 3
- HIED 5090 - Masters Capstone Credits: 3

Additional Information:

Adult learning, rural access to continuing education, workforce training and institutional operations are just some of the

issues you'll explore in UW's higher education administration master's program. Plus, the online master's degree program in higher education administration at the University of Wyoming balances theory with practice to give you the knowledge and skills you need to enter the field or advance at your current institution. Most importantly, you will gain an understanding of where you can make a difference as a leader in the vast field of post-secondary education. By the time you complete your program, you will be ready to level up your career and take your place as a skilled administrator in higher education, government or the nonprofit sector.

Application Deadlines:

January 15 - Fall/Summer

May 15- Fall

September 15 - Spring

How to Apply

Step 1: Apply to UW and the School of Counseling, Leadership, Advocacy and Design through the online applicant portal.

- Click here to access the UW graduate applicant portal. Make sure to use the corresponding application admittance semester indicated above.
- After completing the initial information page, you will receive an email from the system including a link and your temporary username and password.
- Please complete the contact, academic, residency information, etc.
- Submit the $50 application fee
- Submit ALL required documents to the online document portal (see below for details)

Step 2: Submit official copies of transcripts to UW Admissions.

Include ALL documents listed below in order for your application to be considered

- • **A letter of application**. You should discuss your professional and academic goals as well as share your perceptions about how the MA in Higher Education Administration (MA-HIED) will help in achieving those goals. Any special issues that you think the admissions committee should know about (e.g., undergraduate GPA below 3.0, past graduate HIED courses taken under the "six-credit rule", etc.) should also be highlighted.
- **A professional resume or curriculum vitae.** No one format is "correct", but the information most important to include is work experience.
- **Three references provided**. Full contact information for three references who might speak to your academic potential and/or potential for a career in higher education, including an active email address, should be offered in a separate document clearly marked as "References". Once the Office of Admissions has this information, they will contact the references via email and request that they complete a questionnaire and upload a letter. It is a good idea to check with Admissions in advance of the admissions deadline regarding any reference letters that may still be outstanding, and follow up with any of those references.

Education, M.A., Concentration in Literacy Education

The M.A. in Education with a concentration in Literacy Education focuses on research in literacy development, instruction and provides the practical tools needed to apply that knowledge in educational settings.

K-6 Focus

TOTAL: 32 minimum semester hours

- EDCI 5710 - Genre-based, Discipline-based Literacies Credits: 3

- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3
- EDCI 5750 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part I Credits: 3-6
- EDCI 5755 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part II Credits: 3
- EDCI 5760 - Social Linguistics Literacies Credits: 3
- EDCI 5320 - Writing Instruction K-5 Credits: 3
- EDCI 5360 - History of Lit Res & Instruction Credits: 3
- EDCI 5365 - Trends in Literacy Research Credits: 3
- EDCI 5380 - Literacy Leadership Credits: 3
- EDRE 5530 - Introduction To Research Credits: 3

OR

- EDRE 5550 - Action Research Credits: 3
- EDCI 5090 - Plan B Research Credits: 1-3

6-12 Focus

TOTAL: 32 minimum semester hours

- EDCI 5710 - Genre-based, Discipline-based Literacies Credits: 3
- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3
- EDCI 5770 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part I (6-12) Credits: 3
- EDCI 5775 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part II (6-12) Credits: 3
- EDCI 5760 - Social Linguistics Literacies Credits: 3
- EDCI 5370 - Writing Instruction 6-12 Credits: 3
- EDCI 5360 - History of Lit Res & Instruction Credits: 3
- EDCI 5365 - Trends in Literacy Research Credits: 3
- EDCI 5380 - Literacy Leadership Credits: 3

- EDRE 5530 - Introduction To Research Credits: 3

OR

- EDRE 5550 - Action Research Credits: 3
- EDCI 5090 - Plan B Research Credits: 1-3

Additional Information:

The UW M.A. in Education is offered fully online with a concentration in Literacy Education will help you become an expert literacy educator who has a deep knowledge of research in literacy development and instruction and the practical tools needed to apply that knowledge in your classroom, school, or district. The program consists of 11 courses, six of which constitute the UW Literacy Certificate program, which leads to the Wyoming state Reading Endorsement. Thus, while earning your master's degree, you will also complete the coursework necessary for the state Reading Endorsement. Throughout the program, you will interact with the UW Literacy Education faculty, a group of recognized literacy researchers who engage in many collaborative projects with Wyoming teachers.

Program Admission Requirements
Deadlines
The Master of Arts degree in Education with a Concentration in Literacy Education program utilizes rolling admissions. Applications are reviewed whenever they are submitted, and, upon acceptance, a student may immediately register for courses for an upcoming semester.
Minimal Admissions Criteria
Meeting minimal admissions criteria does NOT automatically ensure admission to the program.

- Bachelor's degree.
- A minimum 3.0 GPA on a 4.0 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- A TOEFL score of 540 or above or an IELTS score of 6.5 or above is required for international students.

- Submission of all required supplemental materials

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Required Supplemental Materials

Educators wishing to apply for admission to the Master of Arts in Education with Concentration in Literacy Education must complete the Graduate Admissions application and pay the required fee. This application is available online through the admissions website.
In addition, applicants must submit the following supplemental material:

- an academic resume
- college transcripts
- One letter of reference (someone familiar with your academic or practitioner work in education)

International students must also submit passing scores on the Test of English as a Foreign Language (TOEFL).

All application materials can be uploaded to the online application. Click here for UW Graduate International Admissions information.

Guidelines for Academic Resume

Include the following in your resume:

- Personal Information: Name and Contact Information (Address, Phone numbers, email)
- Education: Institution, City, State, Dates Attended, Major, and Degree
- Work Experience: Dates, Job Title, Employer, City, State
- Professional experiences such as: Publications, Presentations and Grants; Continuing Education Activities, Awards/Honors Received; Community and Volunteer Activities; Professional Memberships; other

Program Requirements

The Master of Arts degree in Education with Concentration in Literacy Education consists of the 11 specific courses listed in the catalog.

Education, M.A., Special Education

The online M.A. program with a concentration in special education is a generalist program that will prepare you to work with K-12 students across a range of special needs, qualifying you to apply for a teaching endorsement.

Degree Requirements

This degree requires a minimum of 34 credits.

Required Courses

Required Courses (34 credit hours)

Program Core
Students must take all courses listed below.

- EDEX 5071 Teaching Students with Mild/Moderate Disabilities (3 credit hours)
- EDEX 5080 Teaching Students with Severe to Low Incidence Disabilities (3 credit hours)
- EDEX 5720 Special Education Law (3 credit hours)
- EDEX 5355 Assessment (3 credit hours)
- EDEX 5100 Practicum I (3 credit hours)
- EDEX 5110 Positive Behavior Support and Management (3 credit hours)
- EDEX 5120 Academic Instruction in General Education for Students with Disabilities (3 credit hours)
- EDEX 5200 Practicum II (3 credit hours)
- EDEX 5000 Collaboration/Professional Interdisciplinary Relationships (3 credit hours)
- EDEX 5250 Assistive Technology (2 credit hours)

- EDEX 5260 Transition Planning (2 credit hours)

Research Courses
Students must choose 3 credit hours from courses listed below.

- EDEX 5150 Research Applications in the Classroom 3
- EDRE 5530 Introduction to Research 3
- EDRE 5550 Action Research 3

Additional Information:

Application Deadlines

June 15 - If applying for the fall semester.

September 15 - If applying for the spring semester.

Admission Requirements

Domestic Students
GPA: 3.25
GRE: no requirement

International Students
TOEFL: 550 minimum written or 80 minimum online, OR IELTS: 6.5 minimum overall score

Until further notice, due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.

GRE: 900/291 minimum

Additional Requirements
Current teaching certificate from the United states and must be K-12 (any grade band or subject area)

How to Apply

Step 1: Apply to UW and the School of Counseling, Leadership, Advocacy and Design through the online applicant portal. When filling out your application please refer to the following document: Guidelines and requirements for applications.

- Access the UW graduate applicant portal. Make sure to use the corresponding application admittance semester indicated above.
- After completing the initial information page, you will receive an email from the system including a link and your temporary username and password.
- Please complete the contact, academic, residency information, etc.
- Submit the application fee
- Submit ALL required documents to the online document portal (see below for details)
- Agree to admissions terms and submit your application

Step 2: Submit official copies of transcripts and test scores to UW Admissions.

- Official transcripts from all postsecondary institutions should be requested and sent to UW Admissions at the following address: *University of Wyoming Admissions; 1000 E. University Ave.; Laramie, WY 82071*

Required Documents

Please include ALL documents listed below in order for your application to be considered.

- A 3-4 page, double-spaced professional writing sample (contact Tiffany LeGal in Counseling, Leadership, Advocacy and Deisgn for the coring rubric), including:
- A description of your professional goals
- An explanation of your commitment to Special Education
- An explanation of your philosophy of education
- An explanation of how this Special Education program fits your goal

- A complete and current resume, including:
- Educational experiences
- Work experiences
- Activities/honors
- Other relevant information
- Program application. (download here)
- Copy of current teaching certificate
- Signed Memo of Understanding (see student handbook)
- Unofficial copies of transcripts (official copies should be sent to UW Admissions)

All classes for the Master of Art in Special Education program are taught using distance delivery methods so you can enjoy the convenience of expanding your education while working full-time in your current postition. Upon completion of this program, students will be eligible to apply to the Wyoming Professional Teaching Standards Board for an endorsement in K-12 Special Education.

Education, M.S., Concentration in Learning, Design, and Technology

The M.S. in Learning, Design and Technology will provide students with advanced research methods to study, evaluate, and identify education opportunities in various settings.

Degree Requirements

This degree requires a minimum of 33 credits.

Required

- EDRE 5530 - Introduction To Research Credits: 3
- LDTE 5000 - Theoretical Foundations in LDT Credits: 3

- LDTE 5010 - Elements of Design Credits:
- LDTE 5020 - Technology & The Mind Credits: 3
- LDTE 5100 - Innovative Pedagogy Credits: 3
- LDTE 5110 - Visual Design and Media Credits: 3
- LDTE 5120 - Managing Design & Technology Credits: 3
- LDTE 5200 - Play, Make, Learn Credits: 3
- LDTE 5210 - Learning Experience Design Credits: 3
- LDTE 5220 - Critical Digital Praxis in Ed Credits: 3
- ITEC 5090 - Masters Capstone Credits: 3

Additional Information:

As a discipline, learning, design and technology translates teaching and learning theories into effective instruction across all ages and settings.

Offered entirely online, the UW master's degree program in learning, design and technology stresses rural access, distance delivery and diverse learning environments, making it possible for you to conveniently acquire the background and technology skills to become an instructional designer/technologist. Through hands-on learning and fieldwork, you will not only develop instructional design proficiency, you will also create materials that demonstrate your abilities to produce dynamic, effective educational products.

Education, Ph.D., Concentration Learning, Design, and Technology

This program will prepare you to develop and analyze learning experiences across a

variety of platforms and equip you with college-level teaching skills. to inspire coming generations of instructional designers.

Degree Requirements

This degree requires 75 credits, 30 of which may be transferred from an accredited masters program.

Foundational Knowledge Base

Foundational Knowledge Base

Students may transfer up to 30 credit hours toward the total program from a related master's degree. Transfer credits need to be accepted by the program faculty. If a student lacks credits in this area, they may take courses available through the Learning, Design, and Technology MS program.

LDT Doctoral Core

(12 credit hours) Students must successfully complete 4 courses in Learning, Design, and Technology.

**new LDTE prefix is in the process of phasing into the program beginning Fall 2022; ITEC is still active and counts in the program of study until the transition is complete.*

- LDTE 5700 - Issues, Practice, and Research in Learning, Design, and Technology Credits: 3
- LDTE5710 (ITEC5870) - Transformational Learning (3 credits)
- LDTE 5730 - Game Design & Development Credits: 3
- LDTE 5760 - Instructional Design Applications Credits: 3

LDT Electives

(9 credits) Students select 9 credits of related coursework in collaboration with

their advisor. Elective courses should support the student's area of interest and can be from programs outside Learning, Design, and Technology.

**The new LDTE prefix is in the process of phasing into the program beginning Fall 2022; ITEC is still active and counts in the program of study until the transition is complete.*

Examples of Electives:

- LDTE5070 (ITEC5070) - Trends (3 credits)
- LDTE5750 - Technology Innovations: Past, Present, and Future (3 credits)
- LDTE5870 - Seminar (1 to 3 credits)
- LDTE5880 - Special Problems (1 to 3 credits)
- LDTE5890 - Directed Professional Study (1 to 3 credits)
- EDCI 5790 - Learning Theories and Instructional Principles Credits: 3
- EDAD 5750 - Educational Leader for the Board and Community Credits: 3
- HIED 5240 - Teaching Adults Credits: 3
- HIED 5260 - Educational Issues Race, Class, and Gender Credits: 3

Research Methods

(15 credit hours) Students successfully complete 15 or more credit hours in Educational Research.

Required Research Core:

- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5640 - Introduction to Qualitative Research Credits: 3

Additional Research Courses: Select at least three additional research courses.

- EDRE 5610 - Educational Research: Group Comparison Research Credits: 3

Quantitative:

- EDRE 5620 - Correlational Research Credits: 3
- EDRE 5630 - Educational Research IV: Multivariate Research Credits: 3

Qualitative:

- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE 5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3

Mixed Methods:

- EDRE 5670 - Mixed Methods Research Credits: 3

Writing Core

(15 credit hours)

- EDCI 5810 - Writing for Professional Publications Credits: 3
- EDRE 5660 - Dissertation/Thesis Prospectus Writing Credits: 3
- PRST 5980 - Dissertation Research Credits: 1-12 *(9 credits required)*

Additional Information:

In order to be considered for admission, applicants must meet the following minimum requirements:

- Hold a Master's degree from an accredited institute of higher education.
- Score of "Proficient" or higher on a letter of intent describing academic goals, teaching experiences, and reasons for pursuing a doctoral degree at the University of Wyoming. This letter serves as a writing sample.
- Three (3) years of P-12 teaching experience or its equivalent.
- Minimum 3.000 GPA on a 4.000 scale on the applicant's most recent degree from an accredited institution, plus transcripts from all other schools attended.
- GRE minimum score of Verbal:153, Quantitative:144.
- TOEFL score of 540 (paperbased), 76 (internet exam) or IELTS score of 6.5 or above are required for international, non-native English speaking applicants. Until further notice, due to COVID-19 related postponements/cancellations of

TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency.
Residency requirement: Four consecutive full-time semesters on campus

The Ph.D. program prepares students for careers in academia. The program consists of: (1) systematic inquiry and research; (2) focused courses and professional experiences in education and related fields; and (3) teaching and other related activities tailored to individual career goals. Students work closely with an advisor and faculty committee to select courses, conduct research, and develop professional experiences.

Effective preparation for the Ph.D. stems from collaborative research and inquiry into topics of mutual interest by students and faculty. The program is structured around a cognitive apprenticeship model. Students spend a major portion of their program working with faculty members on shared research and scholarship.

The Ph.D. program requires a minimum of 81 credit hours beyond the bachelor's degree and includes the following requirements:

- Professional courses: 15 credits
- Program knowledge base: 30 credits
- Research: 15 credits
- Electives: 9 credits
- Dissertation: 12 credits

Candidates may, with the approval of the committee, transfer up to 30 credit hours from previous graduate-level coursework in a closely related field.

Higher Education

The Higher Education Administration program serves the formal academic leadership development needs of persons aspiring to become managers and leaders in higher education institutions.

Options

- Education, M.A., Concentration in Higher Education Administration
- Education, Ed.D., Concentration in Higher Education Administration
- Education, Higher Education Administration Option, Ph.D.

Additional Information:

This concentration offers the following graduate degrees in education: community college leadership certificate, master of arts (M.A.), doctor of education (Ed.D.), and Philosophy of Education (Ph.D). The certificate program requires 15 credits beyond a master's degree. The master's program requires 33 credit hours beyond the bachelor's degree and is available online. The Ed.D. is the terminal professional degree in education designed for students who desire to improve their professional practice as educators. The Ed.D. requires a minimum of 75 semester hours beyond the bachelor's degree. A bachelor's and master's degree is required of all students to be admitted to an Ed.D. program. Candidates may, with the approval of the faculty, transfer up to 30 semester hours from previous course work.

Graduate study addresses the challenges faced by institutions and agencies in the design and delivery of post secondary education and the preparation of educators to meet these challenges.

Career Options

Graduates are employed specifically as faculty and administrators in community colleges and universities, adult learning consultants, and continuing professional educators.

Natural Science M.S. Middle-Level Math Concentration (MMA)

This concentration leads to a middle level math endorsement provided by the

Wyoming PTSB. Teachers must have two years of teaching experience.

SMTC Student Learner Outcomes

Upon successful completion of the MS degree program in Natural Science, a student will be able to:

• Engage in teacher research to transform STEM instruction:

- Design and implement a research project that asks and answers a question using appropriate materials, concepts and methods, and ethical practices, and
- Effectively communicate all aspects of the research project in both oral and written forms.

• Use professional and academic standards to ensure high-quality interdisciplinary instruction (i.e., place-based, culturally relevant, and/or social justice pedagogy) to maximize learning for all students.

• Engage in mathematical and/or scientific discourse and scientific thinking as active participants in communities of practice.

Program Specific Admission Requirements

For the MS-Natural Science Master's Degrees (with concentrations in MSC and MMA) and the MST:

Two years of teaching experience and a valid teaching license required for MSC and MMA

Application Fee

Official Transcripts from all Institutions attended and Bachelor Degree conferring institution

3.0 undergraduate grade point average; provisional admission with a lesser GPA only with consent from Academic Affairs

GRE (minimum 292 score) or an Alternative Portfolio including evidence that supports the potential success of the candidate as a graduate student and a document that interprets the evidence (These items are not required of applicants who hold a prior master's degree)

Writing Sample in response to three provided questions

Resume

Three Letters of Recommendation including a letter from the teacher's principal or an employers and two other colleagues.

Graduate Assistantships and Scholarships

Graduate Assistantships and Scholarships

The SMTC has scholarships and graduate assistantships available for graduates accepted for the above Master's degree programs. Scholarships cover partial to full tuition for current Wyoming teachers for the MMA and MSC programs. More information upon admission and acceptance.

For the Master of Science in Natural Science Master's Degrees

Plan B (non-thesis)

- 30 Credit Hours of graduate-level coursework is required in all of the programs. This includes 24 credit hours in required coursework depending on the program plus 6 credit hours of additional coursework that may include a research class, Plan B independent research and an elective.

- The Middle Level Science (MSC) concentration is a 3-year program, for the required coursework, in the summers only on UW's main campus. Courses are offered on a 3-year rotation cycle; students may enter the program in any year.
- The Middle Level Math (MMA) concentration is a 2-year program with classes offered virtually in the fall and spring and in-person on the main campus in the summer, for the required courses. Students may enter the program in any semester.
- The Natural Science Education (NED) concentration is a 2-year program with classes offered in the graduate program at the Teton Science Schools in Jackson, WY, in year 1, and additional classes offered at the UW main campus in year 2.
- The MST (Master's of Science in Teaching) and the MS- Natural Science Master's Degrees are Main campus degrees. They are self-directed master's degree programs designed individually based on the student's interests and needs.
- All students must complete and defend a Plan B research project.
- A Plan A (thesis) may be completed with an extra year of research.

NOTE: Middle-Level Science & Middle-Level Mathematics*; 24 credit hours in the core courses are required for institutional recommendation for WY middle-level endorsement from the Professional Teaching Standards Board, PTSB.*

NOTE: **NASC 5810 Middle-Level Science and Mathematics 3 credit hour course Practica (*required course for teachers without previous coursework or experience teaching middle-level students. Offered spring semester in even years only).

Core Courses

Students can start the program during any semester. The program is on a two-year rotation where course offerings alternate depending on whether it's an even or an odd year.

Odd Number Year Program Requirements (2025, 2027)

Spring

- NASC 5205 - Methods of Teaching Middle-Level Mathematics, MMA Credits: 3

Summer (in Laramie)

- NASC 5170 - Connecting Geometry with Problem- Solving for the Middle-Level Learner, MMA Credits: 3
- NASC 5225 - Assessment for Middle-Level Mathematics, MMA Credits: 3

Fall

- NASC 5190 - Mathematics of Change and the Middle-Level Learner, MMA Credits: 3

Even Number Year Program Requirements (2024, 2026)

Spring

- NASC 5140 - Numbers, Operations, and Patterns for the Middle-Level Learner, MMA Credits: 3

Summer (in Laramie)

- NASC 5215 - Using Technology for Middle-Level Mathematics Credits: 3
- NASC 5185 - Analysis of Data in the Media for the Middle-Level Learner, MMA Credits: 3

Fall

- NASC 5160 - Social and Historical Issues in Mathematics and the Middle-Level Learner, MMA Credits: 3

Suggested Courses

- NASC 5670 - Research Methodology Credits: 4 (offered synchronously on-line during the fall semesters after school hours)
- NASC 5810 - ML Science & Math Practicum Credits: 3 (required for teachers who are not currently teaching middle level science/math; 3 credits) is offered online synchronously in the spring semester of even years (2024, 2026, 2028, etc.)

Natural Science M.S. Middle-Level Science Concentration (MSC)

This concentration leads to a middle level science endorsement provided by the Wyoming PTSB. Teachers must have two years of teaching experience.

SMTC Student Learner Outcomes

Upon successful completion of the MS degree program in Natural Science, a student will be able to:

• Engage in teacher research to transform STEM instruction:

- Design and implement a research project that asks and answers a question using appropriate materials, concepts and methods, and ethical practices, and
- Effectively communicate all aspects of the research project in both oral and written forms.

• Use professional and academic standards to ensure high-quality interdisciplinary instruction (i.e., place-based, culturally relevant, and/or social justice pedagogy) to maximize learning for all students.

• Engage in mathematical and/or scientific discourse and scientific thinking as active participants in communities of practice.

Program Specific Admission Requirements

For the MS-Natural Science Master's Degrees (with concentrations in MSC and MMA) and the MST:

Two years of teaching experience and a valid teaching license (required for MSC

and MMA; may be waived for MST and MS-Natural Science)

Application Fee

Official Transcripts from all Institutions attended and Bachelor Degree conferring institution

3.0 undergraduate grade point average; provisional admission with a lesser GPA only with consent from Academic Affairs

GRE (minimum 292 score) or an Alternative Portfolio including evidence that supports the potential success of the candidate as a graduate student and a document that interprets the evidence (These items are not required of applicants who hold a prior master's degree)

Writing Sample in response to three provided questions

Resume

Three Letters of Recommendation including a letter from the teacher's principal or an employers and two other colleagues.

Graduate Assistantships and Scholarships

Graduate Assistantships and Scholarships

The SMTC often has scholarships and graduate assistantships available for graduates accepted for the above Master's degree programs. More information upon admission and acceptance.

For the Master of Science in Natural Science Master's Degrees

Plan B (non-thesis)

- 30 Credit Hours of graduate-level coursework is required in all of the programs. This includes 24 credit hours in

required coursework depending on the program plus 6 credit hours of additional coursework that may include a research class, Plan B independent research and an elective.

- The Middle Level Science (MSC) concentration is a 3-year program, for the required coursework, in the summers only on UW's main campus. Courses are offered on a 3-year rotation cycle; students may enter the program in any year.
- The Middle Level Math (MMA) concentration is a 2-year program with classes offered virtually in the fall and spring and in-person on the main campus in the summer, for the required courses. Students may enter the program in any semester.
- The Natural Science Education (NED) concentration is a 2-year program with classes offered in the graduate program at the Teton Science Schools in Jackson, WY, in year 1, and additional classes offered at the UW main campus in year 2.
- The MST (Master's of Science in Teaching) and the MS- Natural Science Master's Degrees are Main campus degrees. They are self-directed master's degree programs designed individually based on the student's interests and needs.
- All students must complete and defend a Plan B research project.
- A Plan A (thesis) may be completed with an extra year of research.

NOTE: Middle-Level Science & Middle-Level Mathematics*; 24 credit hours in the core courses are required for institutional recommendation for WY middle-level endorsement from the Professional Teaching Standards Board, PTSB.*

NOTE: **NASC 5810 Middle-Level Science and Mathematics 3 credit hour course Practica (*required course for teachers without previous coursework or experience teaching middle-level students. Offered spring semester in even years only).

Core Courses

The MSC Core Courses are only offered in the summer. The program is on a three-year rotation where four weeks of coursework are

offered in June. Courses use interdisciplinary and relevant problems drawn from physical, life, and Earth sciences to explore instructional strategies and research.

Physical Sciences Rotation (2024, 2027)

- EE 4800 - Problems in _____ Credits: 1-6
- NASC 5110 - Physical Science in Global Context, MSC Credits: 3
- NASC 5510 - Integrated Instructional Strategies, MSC Credits: 2
- NASC 5600 - Mathematics and Statistics in Science Teaching, MSC Credits: 2

Eath Sciences Rotation (2025, 2028)

- ASTR 4000 - Astronomy for Teachers Credits: 1-5
  (2 credits required)
- NASC 5120 - Earth Science in Global Context, MSC Credits: 3
- NASC 5300 - Classroom Assessment in Middle-level Science, MSC Credits: 2
- NASC 5400 - Spatial Data Instructional Technology Credits: 1

Life Sciences Rotation (2026, 2029)

- BOT 4790 - Special Topics in Ecology Credits: 1-3
- ENTO 5601 - Insects for Teachers: Collection and Identification of Insects Credits: 1
- NASC 5130 - Life Science in Global Context, MSC Credits: 3
- NASC 5660 - Standards, Pedagogy and Research Credits: 2
- SOC 4890 - Special Topics in Credits: 1-3

Suggested Courses

- NASC 5670 - Research Methodology Credits: 4
  (offered synchronously on-line during the fall semesters after school hours)
- NASC 5810 - ML Science & Math Practicum Credits: 3 (required for teachers who are not currently teaching middle level science/math; 3 credits) is offered online synchronously in the spring semester of even years (2024, 2026, 2028, etc.)

Natural Science M.S. Natural Science Education Concentration (NED)

This M.S. in Natural Science Education is for those interested in gaining outdoor teaching experience with a focus on place-based education & ecology. Limited to students accepted into the Teton Science Schools Grad Program.

Overview

A two-year program - coursework begins in the fall at the Teton Science Schools (TSS) for Year 1 and Year 2 starts the following fall on the University of Wyoming campus. The program includes:

- 15 credits through the TSS Graduate Program (Year 1)
- 15 credits from the University of Wyoming (Year 2)
- Completion of a Plan B project (Year 2)

Year 1: Teton Science Schools

Core Courses:

Fall Semester:

- NASC 5625 - Place-Based Education-Teton Science School Credits: 3

- NASC 5630 - Teaching Practicum-Teton Science School Credits: 2-4 *
- NASC 5640 - Introduction to Field Science Teaching Credits: 3
- ZOO 5430 - Ecology of the Greater Yellowstone Ecosystem Credits: 3 *

Spring Semester

- ZOO 5405 - Winter Ecology of the Yellowstone Ecosystem Credits: 2
- ZOO 5420 - Ecological Inquiry Credits: 3 *
- EDCI 5790 - Learning Theories and Instructional Principles Credits: 3

Summer Semester:

- NASC 5620 - Advanced Elements of Field Ecology Course Design, NED Credits: 5

*Credits apply to the UW Master's degree in Natural Science

Year 2: University of Wyoming

Core Courses:

- NASC 5650 - Place-Based Learning Credits: 3
- 9 additional graduate credits at the 4000 level or above
- Plan B (non-thesis) project

One graduate level research course (3+ credits, examples below)

- NASC 5670 - Research Methodology Credits: 4
- EDRE 5550 - Action Research Credits: 3
- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5640 - Introduction to Qualitative Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3

Recommended Courses:

- FCSC 5101 - Special Topics in Family and Consumer Sciences Credits: 1-3
- NASC 5961 - Plan B Project Credits: 1-4

Required ENR Courses (for optional concurrent major):

- ENR 5100 - Foundations of ENRS Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

Application Deadlines:

Applications are due February 1st by 11:59 p.m. or 5:00 p.m. the following Monday if February 1st falls on a weekend.

Scholarships and graduate assistantships are available as funding allows. Contact the SMTC for information.

This program is a Gainful Employment program.

Qualitative Research Methods Minor

The Qualitative Research Methods minor will provide graduate students access to a sequence of qualitative methods courses to enhance their understanding of research methods.

Required Courses

- EDRE 5640 - Introduction to Qualitative Research Credits: 3
- EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research Credits: 3
- EDRE 5655 - Ethnography and Narrative Inquiry in Qualitative Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3
- EDRE 5580 - Supervised Internship Credits: 1-8 (1 Credit Required)
- Three additional credit hours, which may include special topics qualitative methods seminars in or outside of education (i.e.,

Field Methods in Anthropology - ANTH 5390; Ethics in Research and Practice - FCSC 5121; Feminist Research Methods - WMST 5210); submit courses for approval to the coordinator of the Educational Research program.

Quantitative Research Methods Minor

The Quantitative Research Methods minor will provide graduate students an opportunity to demonstrate a comprehensive expertise in quantitative research methods with knowledge to teach research methods at the university level.

Required Courses

- EDRE 5600 - Introduction to Quantitative Research Credits: 3
- EDRE 5610 - Educational Research: Group Comparison Research Credits: 3
- EDRE 5620 - Correlational Research Credits: 3
- EDRE 5630 - Educational Research IV: Multivariate Research Credits: 3
- EDRE 5670 - Mixed Methods Research Credits: 3
- EDRE 5580 - Supervised Internship Credits: 1-8 (1 Credit Required)

Certificate

Early Childhood Special Education (Birth to Five) Certification Program

Post-baccalaureate students in Elementary Education, Family and Consumer Sciences/Child Development, or a related field are eligible. This certificate does not prepare candidates to work in a kindergarten or a primary classroom.

Required Courses:

- EDEC 5220 - Children with Disabilities Credits: 3
- EDEC 5230 - Curriculum and Materials for Young Children with Disabilities Credits: 3
- EDEC 5240 - Evaluation of Young Children with Disabilities Credits: 3
- EDEX 5720 - Special Education Law Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- EDEC 4350 - Health Management Issues in Early Education Credits: 3
- EDEC 4320 - Oral and Written Language Acquisition Credits: 3
- EDEC 5580 - Internship in Early Childhood/Early Childhood Special Education Credits: 1

  EDEC 5580 will be taken twice for this program.
  1. EDEC 5580 (2 credit) Internship in Early Childhood Special Education Birth-3
  2. EDEC 5580 (2 credits) Internship in Early Childhood Special Education 3-5

Education, Community College Leadership Certificate

The UW Community College Leadership Certificate is an online, 15-credit program to help you advance into community college management and leadership roles.

Requirements

The Community College Leadership Certificate Program requires 15 credit hours to include the following three required courses:

- HIED 5660 - Community College Credits: 3
- HIED 5600 - Higher Education Finance Credits: 3

- HIED 5650 - Law of Higher Education Credits: 3

Two Elective Courses Are Chosen From the Following:

- HIED 5260 - Educational Issues Race, Class, and Gender Credits: 3
- HIED 5630 - Advanced Organizational Leadership Credits: 3
- HIED 5640 - Leadership Development Credits: 3
- HIED 5670 - Community College Issues and Leadership Credits: 3
- HIED 5680 - Issues in Higher Education Credits: 3

Education, Online Instruction Certificate

This Online Instruction Certificate program will ground you in the theory and best practices of online education while giving you experiences solving problems and designing educational solutions using current technologies.

Requirements

The Online Instruction Certificate Program is a post-baccalaureate, credit bearing program that helps learners from all fields acquire necessary knowledge and skills to effectively develop and teach online courses in K-12, higher education, and business and industry settings. Courses familiarize learners with distance education and design theory to develop online materials that facilitate student access, engagement, communication, and information exchange. Emphasis is placed on tool use and the application of skills towards instructional development and implementation. Students who have been formally admitted to the Master of Science in Education with an emphasis in Instructional Technology may use certification courses to fulfill graduate degree requirements.

Coursework Credits: 12 Hours

The certificate program consists of 12 hours of coursework in four online courses:

- LDTE 5000 - Theoretical Foundations in LDT Credits: 3
- LDTE 5100 - Innovative Pedagogy Credits: 3
- LDTE 5120 - Managing Design & Technology Credits: 3
- LDTE 5210 - Learning Experience Design Credits: 3

Education, Play Therapy Certificate

The University of Wyoming Play Therapy certificate program will ensure you will have the skills required to decode that language and help the youngest and most vulnerable regain their voice.

Required Courses

Play Therapy Graduate Certificate Program Curriculum
This 7-hour graduate level certificate program requires three courses and is designed to be completed in one year.

* CNSL 5341 Play Therapy and Expressive Arts (3 credit hours) Offered Fall Term
* CNSL 5342 Theoretical Models of Play Therapy (1 credit hours) Offered J-Term (Winter Break)
* CNSL 5343 Filial and Family Play Therapy (3 credit hours) Offered Spring Term

Additional Information:

The University of Wyoming Play Therapy certificate program is designed to meet the 150 clock training hours required by the Association for Play Therapy (APT) to become a Registered Play Therapist or a School-Based Registered Play

Therapist. Play therapy includes a variety of treatment methods that apply the therapeutic benefits to help children learn to communicate with others, better express feelings, modify behavior, develop problem-solving skills, and learn a variety of ways of relating to others. It can be a powerful tool to to help children and families reconnect and heal after a traumatic experience. The program is designed for completion in one academic year with cohort groups beginning annually in the fall semester.

**APT awards the certification and students must are responsible for meeting their additional requirements in order to gain the credential.*

Education, School Principal Certificate

UW's online school principal certificate program is designed for licensed teachers who hold a master's degree in education or related area from an accredited college or university.

Certificate Requirements

This certificate program requires a minimum of 24 credits.

Additional Information:

If you are ready for school building leadership and passionate about fostering a healthy school environment, you can prepare to become that kind of principal through UW's experiential school principal certificate program while maintaining your current teaching position. Offered online and emphasizing the study of educational leadership with an in-depth principal internship UW's school principal graduate certificate program allows you to acquire the knowledge and experience necessary to earn a Wyoming's Professional Teaching Standards Board endorsement as a K-12 principal.

Application Deadlines:

February 1 - If applying for following fall or spring semester

September 1 - If applying for following spring or fall semester

Apply to: https://universityofwyoming.force.com/ERx_Forms__Portal_Register

Required Documents
Please include ALL documents listed below in order for your application to be considered.

- A letter of intent describing why you want to be an educational leader
- A current resume
- Copy of current teaching certificate
- Unofficial copies of transcripts (official copies should be sent to UW Admissions)
- A completed principal program application
- A superintendent approval form signed by the superintendent of the district where you plan to perform your internship (scan and upload)
- Current recommendation letters addressing leadership skills from three different referees (the portal will send a request to each of them after you enter their email addresses):
- two from referees who are familiar with your leadership skills
- current principal

Required Courses (24 credit hours)

- EDAD 5010 Leadership for Curriculum Development (3 credit hours)
- EDAD 5020 Leadership for School Organization (3 credit hours)
- EDAD 5030 Leadership for School and Community Relations (3 credit hours)
- EDAD 5040 Leadership for Instruction (3 credit hours)
- EDAD 5580 Supervised Internship(6 credit hours)
- EDRE 5530 Introduction to Research (3 credit hours)
- EDAD 5080 Introduction to School Law (3 credit hours) Please note: this course is NOT required for students who were admitted spring 2016 or earlier.

Education, Teaching Elementary School (TES)/Teaching Secondary Content (TSC) Graduate Certificates

This certificate provides two options for those with previously earned bachelor's degree to earn a teaching certification: Certificate for Teaching Elementary School (TES) and Certificate for Teaching Secondary Content (TSC).

Program Information:

The College of Education provides two options for individuals with previously earned bachelor's degree to earn a teaching certification: Certificate for Teaching Elementary School (TES) and Certificate for Teaching Secondary Content (TSC). The TES Option prepares individuals to qualify for a Wyoming teaching certificate in grades K-6. The TSC Option prepares individuals to qualify for a Wyoming teaching certificate in the middle and high school grades (6-12). Twelve hours of graduate-level coursework in either option can be applied to a subsequent UW master's degree in Curriculum and Instruction.

Overall Course Offerings: It is noted that the graduate certificate program can be a distance program; however, that does not preclude synchronous meetings or some scheduled on-campus intensive weekends (e.g., attending two Saturdays in the fall as part of the methods classes). Courses are not guaranteed to be asynchronous, meaning that students may have to sign in to Zoom at specific times to attend.

Standard Course Sequence

The standard sequence is a three-semester-long slate of required classes, beginning in the summer and continuing through the subsequent fall and spring semesters. Approved content-specific Praxis exam passing scores should be on file with the College of Education Student Success Center by May 15, prior to the start of the summer courses. This program also requires a separate specific application for student teaching and a current state-issued teaching license, substitute teaching license, or other approved documentation to be on file with the College of Education Student Success Center. Please contact the College of Education Student Success Center for additional details.

Summer Courses (BOTH TES & TSC)

- EDEX 2484 - Introduction to Special Education Credits: 3
- EDST 2450 - Foundations of Development and Learning Credits: 3
- EDST 4000 - Foundations of Education for a Diverse Society Credits: 3
- EDCI 5550 - The Art and Science of Teaching Credits: 3

Practicum

- EDCI 5551 - Practicum Graduate Certificate Credits: 1
    - The practicum can be taken in the fall, spring, or summer terms as a stand-alone class.
    - The 30 practicum hours can be met any time between January and December of the calendar year in which the student applies for and is admitted to the graduate certificate program.
    - Students may use up to 24 hours in a classroom substitute teaching (3 full days).
    - Students must spend a minimum of 6 hours of observing a professional teacher in a classroom of the appropriate subject or grade for the student's program (e.g., a student in the English Education program would need to observe a secondary English classroom and teacher for a minimum of 6 hours).

- Students must complete the practicum hours before the end of the methods classes, and before residency. Student teaching residency will not count for the practicum.
- Students will document the time, and submit proof of practicum hours to the EDCI 5551 faculty when they register for the class.

Fall Courses - ELEMENTARY (TES) (18 Credits)

- EDEL 4410 Elementary Mathematics Educ Credits: 5
- EDEL 4109 Elementary Humanities Education Credits: 5
- EDEL 4309 Upper Elementary Literacy Education Credits: 2-5 (2 credits required) This course is completed concurrently with EDCI 5250.
- EDCI 5250 Advanced Topics in Pedagogy Credits: 3 This course is completed concurrently with EDEL 4309.
- ITEC Module
- EDCI 5500 - Classroom Assessment Credits: 3

Fall Courses - SECONDARY (TSC) (10 Credits)

- EDSE 4000 Level Content Specific Methodology Course: 4 Credits
- EDCI 5250 Advanced Topics in Pedagogy Credits: 3
- EDCI 5500 Classroom Assessment Credits: 3
- ITEC Module

Spring Courses - ELEMENTARY (TES) (15 Credits)
These are all for Student Teaching.

- EDEL 4500 - Residency in Teaching Credits: 1-16 (11 credits required)
- EDCI 5580 - Internship Credits: 1-8 (4 credits required)

Spring Courses SECONDARY (TSC) (15 Credit Hours)
These are all for Student Teaching.

- EDSE 4500 - Residency in Teaching Credits: 1-16 (8 credits required)
- EDSE 4550 - Residency Applications and Synthesis Credits: 3
- EDCI 5580 Internship Credits: 4 required

Additional Requirements:

TES track will want to take the following Praxis II exams:

Praxis II #5001 Elementary Education: Multiple Subjects
•Subtest: Reading & Language Arts #5002- Score: 157
•Subtest: Mathematics #5003- Score: 157
•Subtest: Social Studies #5004- Score: 155
•Subtest: Science #5005- Score: 159

TSC track will want to take the following Praxis II depending on their content focus area:

Praxis II Exams
Agricultural Education #5701- Passing Score: 147
CTE- Business Education: Content #5101- Passing Score: 174
CTE- Family & Consumer Sciences #5122- Passing Score: 153
CTE- Technology Education #5051- Passing Score: 159
English #5038- Passing Score: 168
Mathematics #5165- Passing Score: 160
Science - Biology #5236- Passing Score: 154
Science - Chemistry #5246- Passing Score: 146
Science - Earth & Space Science #5572- Passing Score: 154
Science - Physics #5266- Passing Score: 145
Social Studies: Content Knowledge #5081- Passing Score: 158

Modern Language Exams
OPI: Oral Proficiency Interview- Passing Score: Advanced Low or Better
WPT: Writing Proficiency Test- Passing Score: Advanced Low or Better

An approved background check must be on file in the College of
Education Student Success Center. This background check must

provide evidence that you have been fingerprinted as part of the background check process. A current Wyoming Substitute Teaching Permit, a current Wyoming Standard Teaching license, or current Wyoming Coaching license is preferred.

Principal Certificate

This certificate program provides the knowledge and experience towards earning a Wyoming's Prof. Teaching Standards Board endorsement as a K-12 principal while maintaining your current teaching position.

Requirements

The endorsement/certificate is 24 credits which includes the four core classes, 3 credits each:

- EDAD 5010 - Leadership for Curriculum Development Credits: 3
- EDAD 5020 - Leadership for School Organization Credits: 3
- EDAD 5030 - Leadership for School and Community Relations Credits: 3
- EDAD 5040 - Leadership for Instruction Credits: 3
- EDAD 5580 - Supervised Internship in Educational Administration Credits: 1-8
- EDRE 5530 - Introduction To Research Credits: 3
- EDAD 5080 - Introduction to School Law Credits: 3

Additional Information:

UW's 24-credit hour, online school principal certificate program is designed for licensed teachers who hold a master's degree in education or related area from an accredited college or university. Utilize your coursework towards further degrees in educational leadership.

School District Superintendent Certificate

To help equip you for the diverse responsibilities of a superintendency, the UW School District Superintendent Certificate program combines a robust curriculum of educational leadership courses with an internship in two districts, so you acquire the executive background and operational skills you'll need to lead in rural or urban school districts.

Required Courses

Core Educational Leadership Courses (26 Credit Hours)

- EDAD 5580 - Supervised Internship in Educational Administration Credits: 1-8
- EDAD 5650 - Educational Leader as Communicator Credits: 3
- EDAD 5700 - Educational Leader For Instruction Credits: 3
- EDAD 5720 - Educational Leader as Change Agent Credits: 3
- EDAD 5750 - Educational Leader for the Board and Community Credits: 3
- EDAD 5800 - Educational Leader as Resource Manager Credits: 3
- EDAD 5850 - Educational Leader as Direction Setter Credits: 3
- EDAD 5815 - Advanced School Law Credits: 3
- One Elective Course (3 Cr hrs)) 5000 level course of the student's choice that may be earned in HIED 5630 , EDCI 5665 , or certain courses in LDTE, check with your advisor if you have questions.

Additional Information:

As a school district's chief executive officer, you will serve a wide variety of roles from representing your district in public to

working with district principals and the school board to foster student success.

The program meets the requirements of the Wyoming Professional Teaching Standards Board for the district superintendent endorsement as well as the superintendency standards of the National Educational Leadership district level standards as approved by the National Policy Board for Educational Administration (NPBEA).

Endorsement

Early Childhood Endorsement

The College of Education provides a few different options in early childhood at the University of Wyoming.

Additional Information:

There are three early childhood endorsement programs available for students:

* The B-8 endorsement program for elementary education majors
* The B-5 endorsement program for Family and Consumer Sciences/Child Development option majors (or majors in other fields related to early childhood);
* The Early Childhood Special Education Program (Birth to Five) Leading to Wyoming Certification for postbaccalaureate students with a degree in education or a field related to early childhood.

In addition, undergraduate elementary education majors may work toward the early childhood education endorsement as part of their elective requirements. Specific advising in each of the early childhood program options suport students in their program development.

Secondary Biology Endorsement

Along with another science certification (such as Earth Science), earn a Biology teaching endorsement.

Requirements: 27 Hours (Minimum)

- LIFE 1010 - General Biology Credits: 4

Choose One of the Following:

- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- Other BOT/ ZOO at the 3000/4000 level Credits: 3-4

- LIFE 3400 - General Ecology Credits: 3

Choose One of the Following:

- LIFE 3050 - Genetics Credits: 4
- LIFE 3500 - Evolutionary Biology Credits: 3

- MICR 2021 - General Microbiology Credits: 4 (can be substituted with MOLB 2021 - General Microbiology)

- BOT/LIFE/MOLB/MICR/SOIL/ZOO at the 3000/4000 level Credits: 3-4

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6 (3 credits required)
- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6 (4 credits required)

Secondary Chemistry Endorsement

Along with another science certification (such as Earth Science), earn a Chemistry teaching endorsement.

Requirements: 27 Hours (Minimum)

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3

Choose One of the Following:

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MOLB 4100 - Clinical Biochemistry Credits: 4
- GEOL 4777 - Geochemistry of Natural Waters Credits: 3
- BOT 4780 - Biogeochemistry Credits: 3
- SOIL Upper Division Elective Credits: 3-4

- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

OR

- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 2230 - Quantitative Analysis Credits: 5

OR

- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6 (3 credits required)
- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6 (4 credits required)

Secondary Computer Science Endorsement

This program offers courses that lead to an endorsement (grades 6-12) from the Wyoming Professional Teaching Standards Board in computer science.

Program Requirements

The College of Education offers courses that lead to an endorsement (grades 6-12) from the Wyoming Professional Teaching Standards Board in computer science. Students can also receive a minor in computer science; see information in the College of Engineering and Applied Science section of this catalog for more information about the computer science minor.

The endorsement consists of 14 Credits (novice/intermediate) or 17 (intermediate/advanced) with an option to take all 20 hours for a computer science minor. It is recommended that students interested in obtaining the computer science minor apply to the program by their freshman year or the beginning of the sophomore year. Students are encouraged to examine course prerequisites.

Required Courses:

(**14 Credits** for novice/intermediate track)

OR

(**17 Credits** for intermediate/advanced track)

- COSC 1010 - Computational Thinking and Programming Credits: 3 (Both Tracks)
- COSC 1030 - Computer Programming Credits: 4 (Both Tracks)
- COSC 2030 - Data Structures Credits: 0 (Both Tracks **OR** approved alternate course may be used for novice/intermediate track)
- COSC 3050 - Ethics for the Computer Professional Credits: 1 (Both Tracks)
- COSC 2150 - Computer Organization Credits: 3 (intermediate/advanced track)
- EDSE 4280 - Subject Matter Specific Methods: Computer Science Credits: 2 (Both Tracks)

Secondary Earth Science Endorsement

Along with another science certification (such as Biology), earn an Earth Science teaching endorsement.

Requirements Credits: 27 Hours (Minimum)

- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- LIFE 2022 - Animal Biology Credits: 4

OR

- LIFE 2023 - Biology of Plants and Fungi Credits: 4

Choose One of the Following:

- ESS 3480 - Environmental Change Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- BOT 4780 - Biogeochemistry Credits: 3
- ESS 4001 - Analysis of Nature's Data Credits: 3
- GEOL 4001 - Modeling the Earth System Credits: 4

- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6

(3 credits required)

- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6

(4 credits required)

Secondary Physics Endorsement

Along with another science certification (such as Chemistry), earn a Physics teaching endorsement.

Requirements: 27 Hours (Minimum)

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education Credits: 3-6
  (3 credits required)
- EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education Credits: 3-6
  (4 credits required)

Special Education Director Endorsement

Students who successfully complete a Wyoming Principal's Certificate in Education Leadership and a Master's Degree or endorsement in Education (Special Education) can apply for endorsement as a Director of Special Education through Wyoming Professional Teaching Standards Board. The program is restricted to Wyoming students or students who have a contractual agreement with the University of Wyoming.

Students expecting to obtain this endorsement must complete both the Special Education Master's courses and also the Educational Leadership Certification courses.

Program Details for Director Endorsement

The endorsement program requirements are available by completing both the Special Education Master's program and the Educational Leadership Principal Certificate program. The program is offered through the UW Outreach School using distance education technology such as video conferencing, online, intensive weekends, or combinations of delivery methods. Upon completion of this program students are eligible to apply to the Wyoming Professional Teaching Standards Board for endorsement as a Director of Special Education.

Endorsement/Certificate

English as a Second Language Certificate

The online graduate English as a Second Language certificate is a 15-credit program for preservice or in-service teachers and other fields where ESL skills might prove useful such as speech pathology.

Required Courses:

- EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learning and Teaching Credits: 3
- EDCI 4350 - Introduction to Second Language Acquisition Credits: 3 (for undergraduate candidates)

OR

- EDCI 5350 - Introduction to Second Language Acquisition Credits: 3 (for graduate candidates)
- EDCI 5430 - Theory and Methods of ESL I Credits: 3
- EDCI 5440 - Theory and Methods of ESL II Credits: 3

- EDCI 5580 - Internship Credits: 1-8
(Register for 3 credits only)

Additional Information:

The University of Wyoming (UW), College of Education (COE) offers English as a Second Language (ESL)- Endorsement Program (Add-on, K-12) to meet a growing need of English language learners in the nation (generally) and the state of Wyoming (specifically). Eligibility for this endorsement requires an initial teaching certificate in the state of Wyoming. The candidates in the program are undergraduate students who are working toward Wyoming teacher certification and teachers who already possess the state of Wyoming teaching certificate. Upon completion of the ESL endorsement program, the candidates receive the Wyoming Professional Teaching Standards Board (PTSB) endorsement. The candidates in the program are also graduates students in different disciplines, earning graduate ESL graduate certificate but not ESL endorsement. In 2017, the UW- ESL endorsement program received NATIONALLY RECONIZED decision by meeting all the requirements and standards of the TESOL SPA (Teaching English to Speakers of Other Languages Specialized Professional Association). In 2021, the UW-ESL endorsement program received an approval from PTSB.

Literacy Certificate Endorsement

The online UW Graduate Certificate in Literacy serves Wyoming teachers and recent College of Education graduates who wish to gain a reading endorsement from the Wyoming Professional Teaching Standards Board (PTSB).

Required Courses:

- EDCI 5580 - Internship Credits: 1-8
  3 credit hours of EDCI 5580 are required

- EDCI 5710 - Genre-based, Discipline-based Literacies Credits: 3
- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3
- EDCI 5750 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part I Credits: 3-6
- EDCI 5760 - Social Linguistics Literacies Credits: 3
- EDCI 5755 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part II Credits: 3
- EDCI 5770 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part I (6-12) Credits: 3
- EDCI 5775 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part II (6-12) Credits: 3

Endorsement K-6: 18 Hours

- EDCI 5760 - Social Linguistics Literacies Credits: 3
- EDCI 5710 - Genre-based, Discipline-based Literacies Credits: 3
- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3
- EDCI 5750 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part I Credits: 3-6
- EDCI 5755 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part II Credits: 3
- plus one elective

Endorsement 6-12: 18 Hours

- EDCI 5760 - Social Linguistics Literacies Credits: 3
- EDCI 5710 - Genre-based, Discipline-based Literacies Credits: 3
- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3

- EDCI 5770 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part I (6-12) Credits: 3
- EDCI 5775 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part II (6-12) Credits: 3
- plus one elective

Endorsement K-12: 21 Hours

- EDCI 5580 - Internship Credits: 1-8
- EDCI 5760 - Social Linguistics Literacies Credits: 3
- EDCI 5710 - Genre-based, Discipline-based Literacies Credits: 3
- EDCI 5720 - Literacy Difficulties: Assessment and Instruction Credits: 3
- EDCI 5750 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part I Credits: 3-6
- EDCI 5755 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part II Credits: 3
- EDCI 5770 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part I (6-12) Credits: 3
- EDCI 5775 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part II (6-12) Credits: 3

Electives

- EDCI 5120 - Literature For Young Adults Credits: 3
- EDCI 5160 - Recent Trends in Children's and Young Adult Literature Credits: 3

Additional Information:

This program is designed to serve graduate level K-12 teachers in Wyoming who wish to obtain the Wyoming Reading Endorsement, and those who choose to apply the course work toward a master's or doctoral degree in Curriculum & Instruction or Literacy Education. Students enrolled in

the literacy program will select one of three options for endorsement, K-6 level, 7-12 level or K-12 level. More information on the PTSB reading endorsement can be found at the following link: https://wyomingptsb.com/licensure/endorsement-areas/.

Students who are adding a level to their existing endorsement are required by the PTSB to complete, in addition to the required courses, a 3-credit hour practicum at the level being added.

College of Engineering and Physical Sciences

401 Engineering Education and Research Building

Cameron Wright, Carrell Family Dean of College of Engineering and Physical Sciences
Phone: (307)766-4253 FAX: (307)766-4444
Web site: ceas.uwyo.edu

The College of Engineering and Physical Sciences (CEPS) houses departments in the fields of Physical Science, Technology, Engineering, and Mathematics. Our college is dedicated to fostering a culture of innovation, critical thinking, and problem-solving skills, which are essential for success in today's fast-paced and rapidly changing world.

Our faculty members are experts in their respective fields, and they bring a wealth of knowledge and experience to the classroom. They are passionate about teaching and are committed to helping students achieve their full potential. In addition to traditional classroom instruction, our faculty members also engage students in research and experiential learning opportunities, which provide them with real-world experience and prepare them for the challenges of their future careers.

The CEPS offers a wide range of degree programs, from undergraduate to graduate level, that are designed to meet the needs of students with different backgrounds and career goals. We also offer a variety of support services, including tutoring, advising, and career services, to ensure that our students have the resources they need to succeed academically and professionally.

In the CEPS, we believe that learning should be an engaging and collaborative experience. We strive to create a welcoming and inclusive environment where students from diverse backgrounds can come together to learn, grow, and succeed. We are committed to preparing our students to become the next generation of leaders in their fields and to make meaningful contributions to their communities and the world at large.

Mission

The University of Wyoming's College of Engineering and Physical Sciences will provide excellent education, research, and service in chosen fields of engineering and physical sciences. The College emphasizes connectivity with society, life-long learning, and the essential problem-solving and collaborative skills needed to address the frontier challenges facing Wyoming, the nation and the world.

Accreditation

The following undergraduate programs are accredited by the Engineering Accreditation Commission of ABET: architectural engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, energy systems engineering, mechanical engineering, and petroleum engineering.

Options within different engineering programs are accredited as part of the primary major. That is, the electrical engineering-FM Long bioengineering option is accredited as an electrical engineering degree..

The Bachelor of Science in Computer Science is accredited by the Computer Accreditation Commission of ABET.

The Bachelor of Science in Construction Management is accredited by the American Council for Construction Education.

The Professional CACS Bachelor of Science in Chemistry is accredited by the American Chemistry Society-ACS Approval Program.

Programs of Study

Undergraduate Degrees

Bachelor of Arts

- Chemistry
- Mathematics
- Physics
- Statistics

Bachelor of Science

- Astronomy and Astrophysics
- Chemistry
- Chemistry (ACS Approved)
- Construction Management
- Environmental Geology and Geohydrology
- Geography
- Geology
- Mathematics
- Physics
- Statistics

Bachelor of Science in Architectural Engineering

Bachelor of Science in Chemical Engineering

Bachelor of Science in Civil Engineering

Bachelor of Science in Computer Engineering

Bachelor of Science in Computer Science

Bachelor of Science in Electrical Engineering

Bachelor of Science in Electrical Engineering (Francis M. Long Bioengineering Option)

Bachelor of Science in Energy Systems Engineering

Bachelor of Science in Mechanical Engineering

Bachelor of Science in Petroleum Engineering

Graduate Degrees

Master of Arts

Mathematics

Master of Science

Architectural Engineering

Atmospheric Science

Chemistry

Chemical Engineering

Civil Engineering

Computer Science

Geology

Geophysics

Electrical Engineering

Environmental Engineering

Mathematics

Mechanical Engineering

Petroleum Engineering

Physics

Statistics

Master of Arts in Teaching

Mathematics

Master of Science in Teaching

Mathematics

Physics

Doctor of Philosophy

Atmospheric Science

Chemistry

Chemical Engineering

Computer Science

Electrical Engineering

Geology

Geophysics

Mathematics

Mechanical Engineering

Petroleum Engineering

Physics

Candidates for the various master's degrees in engineering disciplines are required to do a full year's work in residence either under Plan A or Plan B.

Undergraduate Study

Students should understand that a strong background in mathematics is necessary to actively pursue engineering. Credit towards these degrees is not allowed for algebra and trigonometry.

Depending on the major, a minimum of 120 to 126 semester hours of credit is required for the bachelor's degree from the College of Engineering and Physical Sciences. All course work must be selected with prior approval. Detailed outlines of curricula are presented later under headings of the various departments of the college.

All engineering, computer science, and construction management degree candidates must meet the academic requirements of the university and must have a grade point average of 2.000 (C) or above in all engineering, computer science, and construction management courses attempted at this university.

Students may not take a course for S/U credit to satisfy any requirement for a degree from the College of Engineering and Physical Sciences, unless the course is offered for S/U credit only.

The College of Engineering and Physical Sciences adheres to prerequisite coursework being completed before moving forward to advanced coursework. If a student is found to be enrolled in a course without meeting the prerequisites, the student will be administratively dropped from the course.

All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Graduate Study

Master's and doctoral programs are listed below. Candidates for the various master's degrees in engineering are required to do a full year's study in residence either under Plan A or Plan B. Interdisciplinary programs of study and research leading to one of the below disciplinary degrees can be developed.

Only graduates with satisfactory GPAs in programs accredited by ABET are granted full admission to graduate study in engineering and computer science disciplines. In addition, graduates with satisfactory GPAs in undergraduate disciplines of meteorology, physics, mathematics, or related fields can be granted full admission to graduate studies in atmospheric science. Other engineering graduates can be admitted on a provisional basis.

Engineering Science

Program Director: David Mukai, Ph.D.
2076 Engineering Building,
(307) 766-6181
FAX: (307) 766-4444

Engineering Science offerings present the fundamental engineering concepts upon which most engineering analysis and design work is based. These core courses represent the majority of engineering offerings at the freshman and sophomore level.

Courses in engineering science have their roots in mathematics and physical science, extending knowledge toward creative application. Thus, engineering and computer science students must take their courses in calculus, chemistry, physics, and engineering science in a timely manner. Details are given in the published curriculum for each program. **A grade of C or better must be earned in all courses that are prerequisite to any required engineering science course.**

Major

Applied Software Development, B.S.

Combines practical experience and knowledge of modern programming languages, tools, and processes used in the rapidly evolving field of Software Development.

Wyoming Commmunity College Courses

At least 2 elective courses need to be upper division.

- USP FYS - First Year Seminar/USP Elective - Fall Year 1 - Credits: 3
- COSC 1010 - Intro to Computer Science - Fall Year 1 - Credits: 3
- INET 1650 - Web Programming I - Fall Year 1 - Credits: 3
- SDEV 1000 - Software Development Skills 1 - Fall Year 1 - Credits: 3

- MATH 1400 - College Algebra or higher for USP Q - Fall Year 1 - Credits: 3
- ENGL 1010 - College Composition and Rhetoric or higher for COM1 - Fall Year 1 - Credits:3
- SDEV 1200 - Programming Python - Spring Year 1 - Credits: 3
- COSC 2050 - Intro to SQL - Spring Year 1 - Credits: 3
- SDEV 1100 - Software Development Skills II - Spring Year 1 - Credits 3
- USP PN - Spring Year 1 - Credits 4
- USP COM2 - Spring Year 1 - Credits: 3
- INET 2010 - Data Driven Web Sites - Fall Year 2 - Credits: 3
- SDEV XXXX - 2100 Mobile Development or 2250 Web App Client Frameworks for elective - Fall Year 2 - Credits: 3
- SDEV 2150 - Agile Project Management - Fall Year 2 - Credits: 3
- USP H - Fall Year 2 - Credits: 3
- USP H - Fall Year 2 - Credits: 3
- SDEV 2395 - Software Development Capstone - Spring Year 2 - Credits: 3
- SDEV 2200 - Secure Software - Spring Year 2 - Credits: 3
- SDEV 2300 - DevOps - Spring Year 2 - Credits: 3
- USP V - US & WY Constitution - Spring Year 2 - Credits: 3
- STAT 2050 Fundamentals of Statistics - Spring Year 2 - Credits: 4
- **CC Total: 66 Credits**

University of Wyoming Courses

- PN - - Physical and Natural World (1) Credits: 3 Fall Year 3
- COSC 1030 - Computer Programming Credits: 4 Fall Year 3
- COMP 2000 - Computing and Society Credits: 2 Fall Year 3
- SDEV 3000 - Foundations of Software Systems Credits: 3 Fall Year 3
- Elective - Choose one course from (COMP, COSC, GIST, or SDEV) - Fall Year 3 - Credits: 3
- SDEV 2030 - Data Structures Credits: 1-4 Spring Year 3

- ENGL 4010 - Technical Writing in the Professions Credits: 3 Spring Year 3
- SDEV 3011 - Introduction to Software Design Credits: 3 Spring Year 3
- SDEV 3100 - User Design Experience Credits: 3 Spring Year 3
- Elective - Choose 1 from (COMP, COSC, GIST, or SDEV) Spring Year 3 - Credits: 3
- SDEV 3765 - Computer Security Credits: 3 Fall Year 4
- SDEV 3020 - Applied Algorithms Credits: 3 Fall Year 4
- SDEV 3500 - Performance and Testing Credits: 3 Fall Year 4
- SDEV 4730 - Mobile Application Programming Credits: 3 Fall Year 4
- Elective - Choose 1 from (COMP, COSC, GIST, or SDEV) - Spring Year 3 - Credits: 3
- SDEV 4000 - Advanced Programming for Developers Credits: 3 Spring Year 4
- SDEV 4840 - Software Engineering Enviorments Credits: 4 Spring Year 4
- Elective - Choose 1 from (COMP, COSC, GIST or SDEV) - Spring Year 3 - Credits: 3
- COMP 4000 - Practicum I Credits: 4 Spring Year 4
- **UW Total: 61 Credits**
- **Grand Total: 127 Credits**

Architectural Engineering, B.S.

Architectural Engineers create structural and mechanical-electrical-plumbing systems for buildings. The B.S. in Architectural Engineering is accredited by ABET and provides a path to P.E. licensure. Note: This is not an Architecture degree. This degree program requires (120) credits, (42) of which are upper division credits.

Accreditation

The Architectural Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Architectural and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must Take one additional USP course, advisor approved.

Core Courses: 73 Credit Hours

- ARE 1000 - Exploring CAECM Credits: 1
- ARE 1060 - Architectural Design Studio I Credits: 3

- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ARE 2060 - Architectural Design Studio II Credits: 3
- ARE 3110 - Professional Practice Credits: 3
- ARE 3200 - Structural Analysis I Credits: 3
- ARE 3210 - Civil Engineering Materials Credits: 4
- ARE 3300 - Building Electrical and Plumbing Systems Credits: 3
- ARE 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ARE 3600 - Architectural Design Studio III Credits: 3
- ARE 4600 - Architectural Design Studio IV Credits: 3
- ART 3030 - History of Architecture Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Geology Course: 4 Credit Hours

Must take one of the following.

- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

Physics Course: 4 Credit Hours

Must take one of the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

ARE Professional Development Courses: 18 Credit Hours Required

Must take six of the following:

- ARE 3360 - Fundamentals of Transport Phenomena Credits: 3
- ARE 4200 - Structural Analysis II Credits: 3
- ARE 4250 - Structural Steel Design Credits: 3
- ARE 4260 - Structural Concrete Design Credits: 3
- ARE 4285 - Masonry Design Credits: 3
- ARE 4295 - Structural Timber Design Credits: 3
- ARE 4330 - Building Electrical Systems Credits: 3
- ARE 4390 - Building Safety and Fire Protection Credits: 3
- ARE 4430 - HVAC Systems Analysis and Design Credits: 3
- ARE 4490 - Modeling and Optimization of Energy Systems Credits: 3
- CE 3600 - Soil Mechanics I Credits: 4
- CE 4610 - Foundation Engineering Credits: 3
- CE 4620 - Soil and Rock Slope Engineering Credits: 3
- CE 4630 - Ground Improvement, Reinforcement and Treatment Credits: 3
- CE 5010 - Advanced Mechanics of Materials Credits: 3
- CE 5200 - Advanced Structural Analysis Credits: 3
- CE 5220 - Structural Dynamics Credits: 3

- CE 5255 - Advanced Steel Design Credits: 3
- CE 5270 - Highway Bridge Engineering Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3170 - Machine Design Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

ARE Capstone: 3 Credit Hours

Must take 1 of the following courses

- ARE 4720 - Structural Systems Design Project Credits: 3
- ARE 4740 - Mechanical Systems Design Project Credits: 3

ARE Math/Sci/Tech/Prof Courses: 3 credit hours

Must take 3 additional credit hours in Math/Science/Technical/Professional courses.

Additional Requirements/Program Information

- Advanced Standing/Gateway: Prior to enrolling in upper division ARE/CE courses, students must earn 57 quality points in the following courses: CHEM 1020, PHYS 1210 or PHYS 1220, MATH 2200, MATH 2205, ES 2110, ES 2120, and ES 2410.
- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all engineering courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Students choose an area of emphasis in either structural or mechanical systems, and select Optional Electives and the Capstone Design for their emphasis area. Care should

be taken to ensure prerequisites are completed.

- Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- No more than two upper division courses may be transferred and applied to the ARE degree. ARE 4720 and ARE 4740 cannot be transferred to UW.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

ARE Outcomes

The Architectural Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Architectural Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Astronomy and Astrophysics, B.S.

The Bachelor of Science in Astronomy & Astrophysics program prepares students for graduate school, or a career in astronomy/astrophysics or a related field.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirement

Students in the Bachelor of Science in Astronomy major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- ASTR 1050 - Survey of Astronomy Credits: 4
- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4
- ASTR 4610 - Introduction to Astrophysics Credits: 3
- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4420 - Electricity and Magnetism II Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3

Additional Description

See the "Prerequisite and MPE Cut Score Reference Chart" on the Math Placement website for the most up-to-date math placement equivalencies: http://www.uwyo.edu/mathstats/math-placement/.

For declared physics/astronomy majors, the prerequisite of Math 2200 for PHYS 1210 is waived and concurrent enrollment is approved.

For declared physics/astronomy majors, the prerequisite of Math 2205 for PHYS 1220 is waived and concurrent enrollment is approved.

If intending to apply to graduate school, plan to take the physics GRE by fall semester of the senior year

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. • Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions in the University Catalog and consult with their academic advisor to plan accordingly.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better.

Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major

The Bachelor of Science degree in astronomy and astrophysics is administered by the Department of Physics and Astronomy faculty. Please see the Physics

and Astronomy listing in this *Catalog* for more information.

Chemical Engineering, B.S.

Chemical Engineering draws upon fundamentals of chemistry, physics, biology, and math to analyze and design processes. Chemical Engineers work in a variety of fields including the energy, medicine, food, microelectronics, biotechnology, environmental, and manufacturing industries. The B.S. in Chemical Engineering is accredited by ABET and provides a path to P.E. licensure.

Accreditation

The Chemical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Chemical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **124** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math and Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1050 - Advanced General Chemistry I Credits: 4
- OR CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1060 - Advanced General Chemistry II Credits: 4
- OR CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4507 - Physical Chemistry I Credits: 3
- LIFE 1010 - General Biology Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Computing

- COSC 1010 - Computational Thinking and Programming Credits: 3

Chemical Engineering

- CHE 1005 - Introduction to Chemical Engineering Credits: 1

- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 2060 - Chemical Engineering Computing Credits: 3
- CHE 2070 - Chemical Thermodynamics Credits: 3
- CHE 2080 - Chemical Engineering Fluid Mechanics Credits: 3
- CHE 3015 - Chemical Thermodynamics II Credits: 3
- CHE 3026 - Heat Transfer Credits: 3
- CHE 3028 - Mass Transfer Credits: 3
- CHE 3040 - Unit Operations Laboratory I Credits: 3
- CHE 4050 - Unit Operations Laboratory II Credits: 3
- CHE 4060 - Reaction Engineering Credits: 3
- CHE 4070 - Process Simulation & Economics Credits: 4
- CHE 4080 - Senior Design Credits: 4
- CHE 4090 - Process Dynamics and Control Credits: 3

Approved Technical Electives - 18 Credits

- See Advisor for a current list of approved technical electives.
- A minimum of 3 credits of the Technical electives must be Chemical Engineering coursework.

Additional Requirements/Program Information

- 48 Upper Division credits are required. This is fulfilled by required courses and approved technical electives.
- Chemical Engineering degree candidates must meet the academic requirements of the college and, in addition, must have a GPA of 2.000 in Chemical Engineering courses attempted at UW that are applied toward graduation for the B.S. degree from the department.
- Students must achieve a C or better in all chemical engineering courses serving as a

prerequisite for another chemical engineering course.

- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Transfer Work

- All Wyoming Community College equivalent courses will be evaluated for acceptance into the CHE program.
- For upper-division coursework, no more than two CHE 3000+ courses can be transferred and applied to the CHE degree.
- CHE4070 and CHE4080 cannot be transferred to UW.
- All CHE transfer courses must be completed with a grade of C or better.

Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Chemical Engineering should:

- Successfully practice the profession of Chemical Engineering;
- Demonstrate successful career growth

Chemical Engineering Program Outcomes

During the course of study in Chemical Engineering, the student should demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;

- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Chemistry, B.A.

The Bachelor of Arts program (B.A.) is designed to provide a solid foundation in chemistry for those pursuing careers that would benefit from chemical expertise.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Plan 1

(33 hours of chemistry)

Course Requirements

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- **Additional USP requirements** Credits: 14
- **Electives** Credits: 57

Basic Chemistry: 27 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3

OR

- CHEM 4507 - Physical Chemistry I Credits: 3

- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3

Additional Upper-Level Chemistry: 6 Hours

(Including one of the following)

- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

OR

- PHYS 1110 - General Physics I Credits: 4 **AND**
- PHYS 1120 - General Physics II Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Minimum Total: 120 Hours

Additional Requirements

The Plan 1 B.S. degree requires at least 38 hours of chemistry courses.

The Plan 2 B.S. requires 46 hours of chemistry courses.

Since the chemistry required in the first two years of all programs is the same, students interested in pursuing a chemistry major can elect any program initially. Discussions with a departmental adviser will allow students to choose the most appropriate major for their career objectives. In general, students planning graduate work in chemistry should elect one of the B.S. programs.

The Bachelor of Arts program (B.A.) has a more liberal content with additional electives. It would support careers in business, law and advanced study in areas needing a strong chemistry background such as toxicology or forensic science

The B.A is designed to provide a solid foundation in chemistry for those pursuing careers that would benefit from chemical expertise.

The B.A. is suitable for students in the College of Education who wish to obtain a degree, and may also be appropriate for some premedical tracks.

The Plan 2 (CACS) program is designed to meet standards set by the American Chemical Society (ACS). A student who completes the Plan 2 B.S. program will be certified by the Department of Chemistry to the ACS as having met the specific ACS requirements for undergraduate professional training in chemistry.

Students must obtain a grade of C- or higher in each of the chemistry, physics or math courses specifically required for their degree.

The department offers both, B.A. and B.S. degree programs. The B.A. degree includes a minimum of 33 hours of chemistry.

Chemistry, B.S.

The Bachelor of Science program (B.S.) provides an intensive study of chemistry appropriate for those pursuing careers in the chemical sciences.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Plan 1

(42 hours of chemistry)

Course Requirements

- CHEM 4930 - Undergraduate Research Credits: 1-3 (Students need to complete 2 credit hours of CHEM 4930 total)

- Additional upper-division chemistry credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- **Additional USP requirements** Credits: 14
- **Electives** Credits: 44

Basic Chemistry: 37 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4

- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4000 - Career Skills Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 4508 - Physical Chemistry II Credits: 3
- CHEM 4525 - Physical Chemistry Lab I Credits: 1
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4 **AND**
- PHYS 1220 - Engineering Physics II Credits: 4

Minimum Total: 120 Hours

Plan 2 (CACS)

(46 hours of chemistry)

Course Requirements

- CHEM 4930 - Undergraduate Research Credits: 1-3 (Students need to complete 3 credit hours of CHEM 4930 total)
- Additional upper-division chemistry Credits: 2-3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- **Additional USP requirements** Credits: 21
- **Electives** Credits: 4-6

Basic Chemistry: 45-46 Hours

- CHEM 1050 - Advanced General Chemistry I Credits: 4 **AND**
- CHEM 1060 - Advanced General Chemistry II Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4 **AND**
- CHEM 1030 - General Chemistry II Credits: 4
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- CHEM 4400 - Biological Chemistry Credits: 3

OR

- MOLB 3610 - Principles of Biochemistry Credits: 4

OR

- MOLB 4600 - Advanced Biochemistry Credits: 3
- CHEM 4000 - Career Skills Credits: 3
- CHEM 4100 - Inorganic Chemistry Laboratory Credits: 2
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- CHEM 4507 - Physical Chemistry I Credits: 3
- CHEM 4508 - Physical Chemistry II Credits: 3
- CHEM 4525 - Physical Chemistry Lab I Credits: 1
- CHEM 4530 - Physical Chemistry Laboratory II Credits: 1

PHYS: 8 Hours

- PHYS 1310 - College Physics I Credits: 4 **AND**
- PHYS 1320 - College Physics II Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4 **AND**

- PHYS 1220 - Engineering Physics II Credits: 4

Computer Science: 3 Hours

- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 4515 - Applied Mathematics in Physical Chemistry I Credits: 3
- COSC 1010 - Computational Thinking and Programming Credits: 3

Program Supporting Courses: 18 Hours

A group of courses selected to further the career objectives of the individual student. These are chosen after consultation with the departmental adviser and must subsequently be approved by the departmental Undergraduate Studies Committee. A grade of C- or higher is required for all program supporting courses.

Minimum Total: 120 Hours

Additional Requirements

The BS in chemistry requires a minimum of 42 hours of chemistry.

See the "Prerequisite and MPE Cut Score Reference Chart" on the Math Placement website for the most up-to-date math placement equivalencies: http://www.uwyo.edu/mathstats/math-placement/.

Students taking CHEM 4010 or MICR 4321 as their C3 are not required to take CHEM 4000.

Civil Engineering, B.S.

Civil Engineers create infrastructure and development projects, including structures, transportation, water & wastewater, earthworks, and urban site plans. The B.S. in Civil Engineering is accredited by ABET and provides a path to P.E. licensure.

Accreditation

The Civil Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Civil and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must take one additional USP course, advisor approved.

Core Courses: 76 Credits

- CE 1000 - Exploring CAECM Credits: 1
- CE 1010 - Civil Engineering Tools Credits: 3
- CE 2070 - Engineering Surveying Credits: 4
- CE 3110 - Professional Practice Credits: 3
- CE 3200 - Structural Analysis I Credits: 3
- CE 3210 - Civil Engineering Materials Credits: 4
- CE 3300 - Hydraulic Engineering Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 3500 - Transportation Engineering Credits: 4
- CE 3600 - Soil Mechanics I Credits: 4
- CE 4010 - Civil Engineering Design Credits: 3
- CE 4900 - Comprehensive Design Experience Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

Physics Course

Must take one of the following:

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Science Elective: 4 credit hours

Must take one of the following.

- ASTR 2310 - General Astronomy I Credits: 4
- ATSC 2000 - Introduction to Meteorology Credits: 4
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- LIFE 1010 - General Biology Credits: 4
- ENR 1200 - Environment Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1110 - Physical Geology for Engineers Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- SOIL 2010 - Introduction to Soil Science Credits: 4

Structural Design Course: 3 credit hours

Must take one of the following.

- CE 4250 - Structural Steel Design Credits: 3
- CE 4260 - Structural Concrete Design Credits: 3

CE Professional Development Courses: 12 credit hours

Must take four of the following.

Selection of Professional Development Courses must demonstrate breadth by covering more than one area among

Environmental, Geotechnical, Transportation and Water Resources.

- CE 4200 - Structural Analysis II Credits: 3
- CE 4265 - Prestressed Concrete Design Credits: 3
- CE 4285 - Masonry Design Credits: 3
- CE 4295 - Structural Timber Design Credits: 3
- CE 4400 - Design of Water Treatment Facilities Credits: 3
- CE 4410 - Design of Wastewater Treatment Facilities Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CE 4441 - Solid Waste Engineering Credits: 3
- CE 4510 - Pavement Design for Airports and Highways Credits: 3
- CE 4530 - Traffic Engineering: Operations Credits: 3
- CE 4555 - Geometric Design of Highways Credits: 3
- CE 4610 - Foundation Engineering Credits: 3
- CE 4620 - Soil and Rock Slope Engineering Credits: 3
- CE 4630 - Ground Improvement, Reinforcement and Treatment Credits: 3
- CE 4800 - Hydrology Credits: 3
- CE 4810 - Groundwater Hydrology Credits: 3
- CE 4870 - Water Resource Engineering Credits: 3

CE Math/Sci/Tech/Prof Courses: 3 credit hours

Must take 3 additional credit hours in Math/Science/Technical/Professional courses.

Additional Requirements/Program Information

- Advanced Standing/Gateway: Prior to enrolling in upper division ARE/CE courses,

students must earn 57 quality points in the following courses: CHEM 1020, PHYS 1210 or PHYS 1220, MATH 2200, MATH 2205, ES 2110, ES 2120, and ES 2410.

- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all engineering courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Students must take either CE 4250 or CE 4260 for the Structural Design requirement. Remaining Professional Development Electives must cover at least two of the following areas: Environmental, Geotechnical, Transportation, Water Resources.
- Students may have a maximum of 6 credits in courses with a grade of D in upper division ARE courses that apply towards their degree.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- No more than two upper division courses may be transferred and applied to the CE degree. CE 4010 and CE 4900 cannot be transferred to UW.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

CE Outcomes

The Civil Engineering department regularly evaluates the following student skills. Specifically, every University of Wyoming Civil Engineering graduate shall have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Computer Engineering, B.S.

Provides knowledge to be able to design, analyze, and develop computer systems including processors, memory, embedded devices, and data communication systems for a wide range of application domains.

Accreditation

The Computer Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2300 - Discrete Structures Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- 3 credits of an approved Math/Science Elective [2]

Engineering Science

- ES 2110 - Statics Credits: 3 [3]

- ES 2120 - Dynamics Credits: 3 [3]
- ES 2210 - Electric Circuit Analysis Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4490 - Hardware Descriptive Language (HDL) Digital Design Credits: 3
- EE 4820 - Senior Design I Credits: 2 [4]
- EE 4830 - Senior Design II Credits: 2 [4]
- EE 4870 - Computer Network Hardware Credits: 4 [5]

OR

- COSC 4760 - Computer Networks Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- EE 2150 - Computer Organization Credits:

CPEN Electives

12 credits from the following list.

A maximum of two CPEN elective courses can be from the computer science department.

EE 4075 is not allowed as a CPEN Elective.

- EE 4245 - Digital Signal Processing Credits: 3
- EE 4340 - Semiconductor Materials and Devices Credits: 3
- EE 4345 - Hardware Digital Signal Processing Credits: 3
- EE 4360 - VLSI Design Credits: 3
- EE 4440 - Communication Theory Credits: 3
- EE 4590 - Real Time Embedded Systems Credits: 3
- EE 4870 - Computer Network Hardware Credits: 4
- EE 4990 - Advanced Microprocessors Credits: 3
- EE 5390 - Computer Architecture Credits: 3
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- EE 5430 - 3-D Computer Vision Credits: 3
- EE 5460 - Probabilistic Robotics Credits: 3
- EE 5620 - Digital Image Processing Credits: 3
- EE 5630 - Advanced Image Processing Credits: 3
- EE 5650 - Object and Pattern Recognition Credits: 3
- EE 5670 - Digital Image Formation Credits: 3
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- COSC 3765 - Computer Security Credits: 3
- COSC 4210 - Web Application Development Credits: 3
- COSC 4220 - Design and Implementation in Emerging Environments Credits: 3
- COSC 4450 - Computer Graphics Credits: 3
- COSC 4550 - Introduction to Artificial Intelligence Credits: 3
- COSC 4555 - Machine Learning Credits: 3

- COSC 4560 - Modern Robots and Softbots Credits: 3
- COSC 4730 - Mobile Programming Credits: 3
- COSC 4735 - Advanced Mobile Programming Credits: 3
- COSC 4740 - Operating Systems Design Credits: 4
- COSC 4760 - Computer Networks Credits: 3
- BE 5410 - Rehabilitation Engineering Credits: 3
- MATH 4500 - Matrix Theory Credits: 3

EE/BE Elective

3 credits of an approved EE/BE Elective.

General Elective

3 credits of a general elective (1000 level or higher; any Math course must be 2000 level or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. While PHYS 1220 is not a prerequisite for ES 2210, it is recommended that PHYS 1220 should be taken before or concurrently with ES 2210.

[2] One course from the ECE Math/Science Elective List. ABET requires a minimum of 30 hours of Math/Science courses.

[3]Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

[4] To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[5] Network Congestion Control can also be taken to fulfill the CPEN network course requirement.

- Online courses taken outside of the Wyoming system will not be considered for preapproved transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all required mathematics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- EE 1101 is the recommended FYS course for EE and CPEN majors
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Computer Engineering Program Educational Objectives

Graduates of the University of Wyoming Computer Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Computer Engineering - Student Learning Outcomes

All Computer Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Computer Science, B.S.

A state-of-the-art curriculum that provides a solid foundation in programming, algorithm design and analysis, cybersecurity, databases, and computer systems. Elective topics include: AI, ML, AR/VR, and Mobile apps.

Accreditation

The Computer Science Program is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer Science and Similarly Named Program Criteria.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Computer Science General Information

Computer Science majors must satisfactorily meet the requirements of the University Studies Program (USP), and they must complete a minimum of 120 credit hours, at least 42 of which must be upper division hours.

Note that some of the courses required for the Computer Science core or the concentrations will meet some of the USP requirements. Students do not have to take additional courses to meet those requirements.

All courses in Computer Science, Mathematics, and Statistics must be completed with a grade of C or better.

Mathematics and Science Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4
- COSC 2300 - Discrete Structures Credits: 3

OR

- MATH 2300 - Discrete Structures Credits: 3
- Approved Science course - 4 credits
- Approved Science course - 4 credits
- Approved Math/Science Elective - 4 credits

ABET requires a minimum of 30 Math/Science credit hours.

Math elective means any MATH course above Calculus II or STAT courses 3000 and up.

Exceptions: cannot count MATH 2350, MATH 2355, MATH 4000, STAT 4220 [Inactive] or any variable credit courses toward this requirement.

Courses meeting the Science requirement must have a lab component and be for science or engineering majors. See Department web pages for a current list of approved courses.

Computer Science Courses

Introductory Programming Course - Choose one of:

- COSC 1010 - Computational Thinking and Programming Credits: 3

OR

- COSC 1015 - Introduction to Programming for Data Science Credits: 3

- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- EE 2150 - Computer Organization Credits:
- COSC 3011 - Introduction to Software Design Credits: 3
- COSC 3015 - Functional Programming Credits: 3
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- COSC 3050 - Ethics for the Computer Professional Credits: 1
- COSC 3765 - Computer Security Credits: 3

Theory Course - Choose one of:

- COSC 4100 - Foundations of Computing Credits: 3

OR

- COSC 4200 - Computability and Complexity Credits: 3

Operating Systems Course - Choose one of:

- COSC 4740 - Operating Systems Design Credits: 4

OR

- COSC 3750 - Linux Programming for System Applications Credits: 3

Programming Language Course - Choose one of:

- COSC 4780 - Principles of Programming Languages Credits: 3

OR

- COSC 4785 - Compiler Construction Credits: 3

Systems Course - Choose one of:

- COSC 4760 - Computer Networks Credits: 3

OR

- COSC 4820 - Database Systems Credits: 3

- COSC 4950 - Senior Design I Credits: 1
- COSC 4955 - Senior Design II Credits: 2

Electives

- 9 credits of COSC Electives (3000-level or above, not used to complete any other requirement)
- General Electives to reach 120 credits. A total of 3 credits of COSC 3970 can be used.

Approved EE courses may also be taken as COSC electives. See Department web pages for a current list of approved courses.

General electives include any course at or above the 1000 level, not used to complete any other requirement.

Electives should be selected to meet the 42 hour requirement for Upper Division credits.

Computer Science Program Educational Objectives

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Computer Science - Student Learning Outcomes

The program of study in Computer Science enables students to achieve, by the time of graduation:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

Construction Management, B.S.

Construction Managers are responsible for overseeing construction projects, including schedules, budgets, and quality control. The B.S. in Construction Management is a candidate for accreditation by ACCE and provides numerous career paths.

Accreditation

The Construction Management Program is accredited by the American Council for Construction Education (ACCE), https://www.acce-hq.org/, under the Bachelor Degree Programs.

Degree Requirements

The degree requires **120** credits, **42** of which must be upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

USP Elective: 3 Credit Hours

Must take one additional USP course, advisor approved.

Core Courses: 53 credit hours

- CM 1000 - Exploring CAECM Credits: 1
- CE 2070 - Engineering Surveying Credits: 4
- CM 2000 - Introduction to Construction Management Credits: 3
- CM 2120 - Construction Materials and Methods Credits: 3
- CM 2200 - Construction Documents Credits: 3
- CM 2300 - Construction Safety Credits: 3
- CM 2400 - MEP Systems Credits: 3
- CM 3100 - Construction Scheduling Credits: 3

- CM 3160 - Construction Law & Contracts Credits: 3
- CM 3180 - Evolving Technologies in CM Credits: 3
- CM 3200 - Statics & Structural Systems Credits: 4
- CM 3210 - Construction Estimating Credits: 3
- CM 3220 - Soils & Concrete Credits: 4
- CM 4100 - Project Management Credits: 3
- CM 4140 - Heavy CM Methods Credits: 3
- CM 4600 - Building Info. Modeling Credits: 3
- CM 4900 - Capstone Project Credits: 4

Business & Professional Courses: 12 credit hours

- ACCT 2010 - Principles of Accounting I Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2100 - Management and Organizations Credits: 3

Math/Science Courses: 18 credit hours

- GEOL 1100 - Physical Geology Credits: 4
- MATH 1405 - Trigonometry Credits: 3
- MATH 2200 - Calculus I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- Math/Science Elective Credits: 3

CM Electives: 6 credit hours

Must take 6 additional credit hours in Construction Management elective courses.

General Electives: 9 credit hours

Must take 9 additional credit hours in general elective courses.

Additional Requirements/Program Information

- Degree candidates must meet the academic requirements of the university, and must have a minimum GPA of 2.0 in all courses, and all courses required for the major. *Grades of C or better are required for all prerequisite courses.
- Math 2350 may replace Math 2200 but student must also have Math 1405.
- Math 1405 may be satisfied with Level 5 of the Math placement exam or Math ACT of 27 or SAT Math of 640. Students placing out of Math 1405 will need an additional general elective.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.

Electrical Engineering, B.S.

Learn to design, develop, analyze, and create systems for a wide variety of fields, including power generation, control systems, communications, signal processing, and microprocessors.

Accreditation

The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]

- 3 credits of an approved Math/Science Elective [2]

Engineering Science and Computer Science

- ES 2110 - Statics Credits: 3 [3]
- ES 2120 - Dynamics Credits: 3 [3]
- ES 2210 - Electric Circuit Analysis Credits: 3
- COSC 1010 - Computational Thinking and Programming Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4075 - C++ with Numerical Methods for Engineers Credits: 4
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4440 - Communication Theory Credits: 3
- EE 4620 - Automatic Control Systems Credits: 3
- EE 4820 - Senior Design I Credits: 2 [4]
- EE 4830 - Senior Design II Credits: 2 [4]

Advisor Approved Electives

- 15 credits of EE or BE Electives (4000-Level or Above)

- 3 credits Approved Technical Electives.[5]
- 3 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

[2] One course from the ECE Math/Science Elective List. ABET requires a minimum of 30 hours of Math/ Science Electives.

[3] Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

[4] To meet the COM3 requirement with EE 4820 and EE 4830, the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[5] Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800

- Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all required mathematics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort

within one year prior to their expected graduation for program assessment purposes.

Electrical Engineering Program Educational Objectives

Graduates of the University of Wyoming Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering - Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive

environment, establish goals, plan tasks, and meet objectives

- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Electrical Engineering, F.M. Long Bioengineering, B.S.

An Elec. Eng. degree where electives are chosen so that students can design and develop instruments, devices, and software for medical equipment. With a few more courses, it can serve as a pre-med or pre-dental program.

Accreditation

The Electrical Engineering, F.M. Long Bioengineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **128** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math & Science

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3
- PHYS 1210 - Engineering Physics I Credits: 4 [1]
- PHYS 1220 - Engineering Physics II Credits: 4 [1]
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 2300 - Introductory Organic Chemistry Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MOLB 2021 - General Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4

Engineering Science

- ES 2110 - Statics Credits: 3 [2]
- ES 2120 - Dynamics Credits: 3 [2]
- ES 2210 - Electric Circuit Analysis Credits: 3

Electrical Engineering

- EE 1010 - Introduction to Electrical and Computer Engineering Credits: 1
- EE 2220 - Circuits and Signals Credits: 4
- EE 2390 - Digital Systems Design Credits: 4
- EE 3150 - Electromagnetics Credits: 3
- EE 3220 - Signals And Systems Credits: 3
- EE 3311 - Electronics I Credits: 3
- EE 3312 - Electronics I Laboratory Credits: 1
- EE 3331 - Electronics II Credits: 3
- EE 3332 - Electronics II Laboratory Credits: 1
- EE 3510 - Electric Machines and Power Systems Credits: 4
- EE 4075 - C++ with Numerical Methods for Engineers Credits: 4
- EE 4220 - Probabilistic Signals and Systems Credits: 3
- EE 4390 - Microprocessors Credits: 3
- EE 4820 - Senior Design I Credits: 2 [3]
- EE 4830 - Senior Design II Credits: 2 [3]

Bio-Engineering and Electives

- COSC 1010 - Computational Thinking and Programming Credits: 3
- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3

OR

- EE 4620 - Automatic Control Systems Credits: 3
- 3 credits of EE or BE Electives (4000-level or above)
- 3 credits Approved Technical Electives.[4]
- 2 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

[1] PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

[2] Or any ES, EE, BE course (>2000 level), or COSC 3011 or COSC 3750

3 To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

[4] Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800.

- Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.
- Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.
- A grade of C or better is required for all prerequisite courses.
- Students must also achieve a grade of C or better in all mathmatics courses.
- Students must complete a minimum of 42 hours of upper division coursework, 30 of which must from the University of Wyoming.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Electrical Engineering - F.M. Long Bioengineering Program Educational Objectives

Graduates of the University of Wyoming Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical or Computer Engineering.

- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering, F.M. Long Bioengineering Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Energy Systems Engineering, B.S.

Energy Systems Engineers design, develop, and test energy systems and devices with emphasis on renewables, conversion, and more, and in the context of environmental and legal considerations. The UW BS in Energy Systems Engineering is ABET accredited.

Accreditation

The Energy Systems Engineering program is accredited by the Engineering Accreditation Commission(s) of ABET, https://www.abet.org, under the General Criteria.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy Systems Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Policy for Transfer Credit Towards Energy Systems Engineering (ESE) Core Coursework

In general, transfer of coursework toward an Energy Systems Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Energy Systems Engineering electives without a direct University of Wyoming equivalent). However, three courses are considered to be the core of the Energy Systems Engineering program, and therefore credit cannot be transferred from another institution. These courses are ESE 3020, ESE 3040, and ESE 3360. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ESE courses requires explicit written approval from the Department.

Energy Systems Engineering Curriculum

Atmospheric Science

- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3

Chemistry

- CHEM 1020 - General Chemistry I Credits: 4

Engineering Science

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3

- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3

Environment and Natural Resources

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

Math

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3

Energy System Engineering

- ESE 3005 - Engineering Experimentation and Solid Modeling Credits: 3
- ESE 3020 - System Dynamics Credits: 3
- ESE 3040 - Thermodynamics II Credits: 3
- ESE 3160 - Thermal/Fluid Science Lab Credits: 3
- ESE 3360 - Fundamentals of Transport Phenomena Credits: 3
- ESE 4060 - Energy Systems Design I Credits: 3

- ESE 4070 - Energy Systems Design II Credits: 3

Life Sciences

- LIFE 1010 - General Biology Credits: 4

Physics

- PHYS 1220 - Engineering Physics II Credits: 4

Electives

- One Business Elective (min 3 CH, select from department-approved list)
(See here for Math, Science and Business Elective
options: me_math_science_business_electives_2022_02_04.pdf (uwyo.edu)

ESE Electives

Two ESE Electives (min 6 CH total) choose 2 from:

- ECON 1300 - Oil: Business, Culture, and Power Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- POLS 4350 - Sustainable Development and Global Policy Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- PETE 4000 - Environment, Technology and Society Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
(Applied GIS or Econ Nat Resources)

Technical Electives

Five Technical Electives (min 15 CH). Choose 5 from:

- ARE 4430 - HVAC Systems Analysis and Design Credits: 3
- ARE 4740 - Mechanical Systems Design Project Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ES 2280 - Physical Computing Credits: 3
- ESE 4455 - Combustion Engineering Credits: 3
- ESE 4461 - Computational Fluid Dynamics I Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3
- ESE 3060 - Numerical Methods for Engineers Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- ME 3450 - Properties of Materials Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3

Program Educational Objectives

- Successfully practice the profession of engineering

- Demonstrate career growth (e.g., increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees)

- Apply energy systems engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts

- Successfully serve in a range of leadership and collaborative roles in the profession and in the community

- Exhibit high professional standards and commitment to ethical action

Energy Systems Student Outcomes

The Department's Student Outcomes are:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors

- An ability to communicate effectively with a range of audiences

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

1. Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2205 , MATH 2210, and the seven ES courses).

2. Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 126 total credit hours is required. A minimum of 48 hours of upper division coursework are required, so ESE, business, and technical electives should be chosen appropriately.

3. All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Environmental Geology and Geohydrology, B.S.

The Environmental Geology and Geohydrology degree is intended for students interested in becoming professionals in environmental fields and will prepare students for graduate school and careers in environmental disciplines.

Degree Requirements

This degree requires **120** credits, **42** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

One of the Following:

- GEOL 1005 - Earth History Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1200 - Historical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

And Each of the Following:

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GEOL 4140 - Diversity Inclusion Geoscience Credits: 1

  (OR 1 course with an ASD-Diversity or ASG-Global Awareness Attribute)

- GEOL 4444 - Geohydrology Credits: 4
- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4777 - Geochemistry of Natural Waters Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3
- GEOL 4820 - Capstone Credits: 3

Required Allied Math and Science Courses

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4

One of the Following:

- LIFE 1010 - General Biology Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- MATH 2210 - Calculus III Credits: 4
- PHYS 1120 - General Physics II Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

Additional Electives

Additional 18 credit hours of Electives, in consultation with advisor

- GEOL 2005 - Intro to Geophysics Credits: 4

OR

- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4

- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3450 - Weather and Climate Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3550 - Natural Hazards and Society Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOL 4441 - Advanced Climate Variability Credits: 3
- GEOG 4460 - Biogeography Credits: 3
- GEOL 4525 - Environmental Data Analysis Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4

Note:

Students are encouraged, in consultation with their adviser, to design a major that best fits their interests and goals. With this in mind, there are many courses outside the Department of Geology and Geophysics that may be substituted for courses in the Electives (B) list above provided that such substitutions are made with the consent of an adviser. A list of such courses may be obtained from the Department. Students who seek the Geology BS may not also seek EGGH as a double major, and vice versa.

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements.

Geography, B.S.

A Geography B.S. offers students interdisciplinary training to understand phenomena across a range of scales to critically solve grand challenges that intersect science, nature, culture, economy, politics, and technology.

Degree Requirements

This degree requires **120** credits, **42** of which are upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Core Requirements (9-11 credits)

- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3

- GEOG 1010 - Introduction to Physical Geography Credits: 3

OR

- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

- GIST 1200 - Geospatial Foundations Credits: 3

OR

- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Content Areas (26 Credits)

Breadth: Complete a minimum of ONE course from THREE of the four content areas.

Depth: Complete a minimum of TWO courses from TWO of the four content areas.

Remaining credits to reach 26 in consultation with academic advisor (~13-15 credits).

Human Geography Content

- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4013 - Political Geography Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- GEOG 4560 - Global Cities Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3
- GEOG 4590 - Geography of Conflicts Credits: 3
- INST 4250 - East Asia Society and Economy Credits: 3

Physical Geography Content

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4450 - Fluvial Geomorphology Credits: 4
- GEOG 4460 - Biogeography Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 4880 - Earth Surface Processes Credits: 3

Geographic Information Science (GIS) Content

Accepting any 3-4 credit GIST course in this category.

Transdisciplinary Content

- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4590 - Geography of Conflicts Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- INST 3860 - World Food, Ag, & Development Credits: 3

- INST 4445 - Drug War Geopolitics in the Americas Credits: 3
- INST 4455 - Energy Security Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- INST 4580 - Gender, Global Change, and Development Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ZOO 4440 - Limnology Credits: 3

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements.
- At least 15 credits of completed program requirements should be at the upper division level.
- Sophomore year: Students are encouraged to discuss study abroad opportunities with their advisor, mentor, and study abroad office.

Geology and Earth Science, B.A.

The B.A. in Geology and Earth Science provides students with a broad educational experience in preparation for careers in earth science-related fields.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3

- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

Each of the following:

- GEOL 1000-level intro lab course(s) Credits: 4-8
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 4820 - Capstone Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- PHYS 1110 - General Physics I Credits: 4
- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5

Six Courses from the Following

- ATSC 2000 - Introduction to Meteorology Credits: 4

OR

- GEOG 3450 - Weather and Climate Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOL 2005 - Intro to Geophysics Credits: 4

OR

- GEOL 3005 - Principles of Geophysics Credits: 4
- GEOL 2050 - Principles of Paleontology Credits: 4
- GEOL 2070 - Introduction to Oceanography Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 3400 - Geologic Hazards: A Historical and Scientific Review Credits: 4
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 4444 - Geohydrology Credits: 4
- GEOL 4490 - Geochemistry Credits: 4
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4835 - Applied/Exploration Geophysics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- ECON 4400 - Environmental Economics Credits: 3

OR

- ECON 4410 - Natural Resource Economics Credits: 3

Additional Electives

Additional 12 hours of electives with adviser consultation, at least 6 hours of which must be taken outside of the Department of Geology and Geophysics.

Geology, B.S.

A Geology B.S. provides students scientific and technical skills via hands-on courses, field, and lab experiences to develop critical economic and environmental solutions for use in graduate programs and professional careers.

Degree Requirements

This degree requires **120** credits, **42** of which must be upper division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

Note: This program represents a minimum proficiency. Students are strongly advised to elect additional courses in geology.

One of the Following:

- GEOL 1005 - Earth History Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- GEOL 1200 - Historical Geology Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

And Each of the Following:

- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

- GEOL 2005 - Introduction to Geophysics Credits: 4

OR

- GEOL 3005 - Principles of Geophysics Credits: 4

- GEOL 2010 - Mineralogy Credits: 4
- GEOL 2020 - Introduction to Petrology Credits: 4
- GEOL 2100 - Stratigraphy and Sedimentation Credits: 4
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GEOL 4140 - Diversity Inclusion Geoscience Credits: 1

  (OR 1 course with an ASD-Diversity or ASG-Global Awareness Attribute)
- GEOL 4610 - Structural Geology and Tectonics Credits: 4
- GEOL 4717 - Field Course in Geology Credits: 1-8

  (6 credits of offered field camp courses are required, to be taken in 1 of the last 2 summers on campus).
- GEOL 4820 - Capstone Credits: 3

Geology Electives

Additional 22 credit hours in Geology courses at 2000-level and above:

Allied Math and Sciences Credits

- CHEM 1020 - General Chemistry I Credits: 4

OR

- CHEM 1050 - Advanced General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4

OR

- CHEM 1060 - Advanced General Chemistry II Credits: 4
- PHYS 1110 - General Physics I Credits: 4

OR

- PHYS 1210 - Engineering Physics I Credits: 4

Option A: Fundamental Math

- GEOL 2120 - Quantitative GeoMethods Credits: 3

AND

- MATH 2200 - Calculus I Credits: 4

Option B: Advanced Math

- MATH 2200 - Calculus I Credits: 4

AND

- MATH 2205 - Calculus II Credits: 4

OR

- MATH 2250 - Elementary Linear Algebra Credits: 3

OR

- GEOL 4250 - Mathematical Geosciences Credits: 3

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4

Additional Requirements/Program Information

- Grades of C or better are required for all courses used to satisfy program requirements

Geospatial Information Science and Technology, B.S.

The Bachelor of Science degree in Geosptatial Informatoin Science and Technology (GIST) provides a quality educational experience that combines proficiency in spatial thinking and geospatial data science analysis with fluency in geographic information systems, remote sensing, and data visualization.

Degree Requirements

This degree requires [120] credits, [42] of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Mathematics and Statistics Requirement: 9-10 credits

Students must complete 5-6 credits of mathematics and 4 credits of statistics by completing one of the following course combinations:

Mathematics requirement (fulfills USP Q requirement):

- MATH 1400 - College Algebra Credits: 3

AND

- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5

Statistics Requirement:

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Core Requirement: 26 Credits

Complete all courses

- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartography Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 3050 - Spatial Database Design and Management Credits: 3
- GIST 4780 - Capstone in GIS&T Credits: 3

Experiential Learning Requirement: 6 credits

Students must take 6 credits of experiential learning. This requirement can be met by taking 6 credits from one of the listed courses below, or a combination of credits equal to 6 from the listed courses below.

- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6

GIST Electives: 30 credits

Students must take 30 credits of GIST electives; up to 10 credits can be from GIST-related courses from other disciplines, with approval from their advisor; at least 18 of the 30 credits must be upper division (3000 or above). Current electives are listed below:

- GIST 2140 - Survey of Remote Sensing Applications Credits: 3
- GIST 4130 - Applied Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6

Discipline Concentration Requirement: 16-24 credits

GIST is best practiced with a specialized knowledge base outside of GIST. Students must declare a minor in another discipline or create discipline concentration outside of GIST, with approval of their advisor; a second major can also meet this requirement.

Mathematics, B.A.

A comprehensive math degree with training in the fundamentals of proofs, analysis, algebra, computation and math modeling. Provides a strong background for teaching, work in industry and graduate programs in math.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

These courses, known as the transition courses, introduce students to the three main areas of mathematics research currently represented in the department.

At the upper division, all mathematics majors must take:

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
- MATH 3340 - Introduction to Scientific Computing Credits: 3

Depth Course

Every mathematics major must select one course that builds on the corresponding transition course. This sequence provides the student with an opportunity to study one of these areas in greater depth.

- MATH 4200 - Analysis 2: Advanced Analysis Credits: 3

OR

- MATH 4205 - Analysis 3: Undergraduate Topics in Analysis Credits: 3

OR

- MATH 4510 - Algebra II: Introduction to Group Theory Credits: 3

OR

- MATH 4520 - Algebra III: Topics in Abstract Algebra Credits: 3

OR

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

OR

- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3

Upper Division Math Courses

Finally, an additional 15 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Mathematics, B.S.

A comprehensive math degree with training in the fundamentals of proofs, analysis, algebra, computation and math modeling. Provides a strong background for teaching, work in industry and graduate programs in math.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should

check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

These courses, known as the transition courses, introduce students to the three main areas of mathematics research currently represented in the department.

At the upper division, all mathematics majors must take

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3
- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3
- MATH 3340 - Introduction to Scientific Computing Credits: 3

Depth Course

Every mathematics major must select one course that builds on the corresponding transition course. This sequence provides the student with an opportunity to study one of these areas in greater depth.

- MATH 4200 - Analysis 2: Advanced Analysis Credits: 3

OR

- MATH 4205 - Analysis 3: Undergraduate Topics in Analysis Credits: 3

OR

- MATH 4510 - Algebra II: Introduction to Group Theory Credits: 3

OR

- MATH 4520 - Algebra III: Topics in Abstract Algebra Credits: 3

OR

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

OR

- MATH 4440 - Introduction to Partial Differential Equations I Credits: 3

Upper Division Math Courses

Finally, an additional 15 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Mechanical Engineering, B.S.

Mechanical Engineers design, develop, build, and test mechanical and thermal systems and devices in a wide range of fields including energy, manufacturing, materials, machines, and more.

Accreditation

The Mechanical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Mechanical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Mechanical Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

- Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
- ES 2800 is NOT a part of the MESC
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 48 hours of upper division coursework are required, so ME, business, and technical electives should be chosen appropriately.
- A minimum of 126 total credit hours is required.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Policy for Transfer Credit Towards Mechanical Engineering (ME) Core Coursework

In general, transfer of coursework towards a Mechanical Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Mechanical Engineering electives without a direct University of Wyoming equivalent). However, six courses are considered to be the core of the Mechanical Engineering program, and therefore credit cannot be transferred from another institution. These courses are ME 3010, ME 3020, ME 3040, ME 3170, ME 3360, and ME 3450. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ME courses requires explicit written approval from the Department.

Mechanical Engineering Curriculum

Chemistry

- CHEM 1020 - General Chemistry I Credits: 4

Engineering Science

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2210 - Electric Circuit Analysis Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3
- ES 2280 - Physical Computing Credits: 3

Computer Science

- COSC 1010 - Computational Thinking and Programming Credits: 3

Math

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3
- MATH 2250 - Elementary Linear Algebra Credits: 3

Mechanical Engineering

- ME 3005 - Engineering Experimentation and Solid Modeling Credits: 3
- ME 3010 - Intermediate Mechanics of Materials Credits: 3
- ME 3020 - System Dynamics Credits: 3
- ME 3040 - Thermodynamics II Credits: 3
- ME 3160 - Thermal/Fluid Science Lab Credits: 3
- ME 3170 - Machine Design Credits: 3

- ME 3360 - Fundamentals of Transport Phenomena Credits: 3
- ME 3450 - Properties of Materials Credits: 3
- ME 4060 - Systems Design I Credits: 3
- ME 4070 - Systems Design II Credits: 3
- ME 4150 - Mechanical Behavior of Materials Credits: 3

Physics

- PHYS 1220 - Engineering Physics II Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4 (min 3 CH)

OR

- PHYS 1210 - Engineering Physics I Credits: 4

Electives

- Four ME Electives (min 12 CH total, any upper division ME course or EE 4620, excluding ME 3975)
- One Math/Science Electives (min 3 CH total, select from department-approved list)
- One Business Elective (min 3 CH, select from department-approved list)

(See here for Math, Science and Business Elective
options: me_math_science_business_electives_2022_02_04.pdf (uwyo.edu))

- ME 3060 - Numerical Methods for Engineers Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of Buildings Credits: 3
- EE 4620 - Automatic Control Systems Credits: 3
- ME 4010 - Mechanical Vibrations Credits: 3
- ME 4020 - Design of Mechanical/Electronic Systems Credits: 3
- ME 4040 - Introduction to Finite Elements Credits: 3
- ME 4100 - Manufacturing Processes Credits: 3

- ME 4200 - Thermo/Kinetics of Materials Credits: 3
- ME 4210 - Introduction to Composite Materials Credits: 3
- ME 4215 - Composite Materials Design and Manufacturing Credits: 3
- ME 4240 - Gas Dynamics I Credits: 3
- ME 4340 - Gas Turbine Engines Credits: 3
- ME 4350 - Airplane Aerodynamics and Flight Credits: 3
- ME 4430 - HVAC Systems Analysis and Design Credits: 3
- ME 4450 - Principles of Materials Selection Credits: 3
- ME 4455 - Combustion Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4461 - Computational Fluid Dynamics I Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

Mechanical Engineering Program Educational Objectives

- Successfully practice the profession of engineering
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community.
- Exhibit high professional standards and commitment to ethical action.

Mechanical Engineering Program Student Outcomes

The Department's Student Outcomes are:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors

- An ability to communicate effectively with a range of audiences

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

- Before enrolling in any upper division ESE or ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
- ES 2800 is NOT a part of the MESC
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME and ESE courses taken at UW. A minimum of 48 hours of upper division

coursework are required, so ME, business, and technical electives should be chosen appropriately.

- A minimum of 126 total credit hours is required.
- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expectedgraduation for program assessment purposes.

Petroleum Engineering, B.S.

Petroleum engineers combine fundamentals of science & math with computer programming, materials science, fluid mechanics and thermodynamics to develop and apply new technology to recover hydrocarbons from conventional and unconventional reservoirs.

Accreditation

The Petroleum Engineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Petroleum and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires **122** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Math and Science

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- GEOL 1100 - Physical Geology Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Engineering Science

- ES 2110 - Statics Credits: 3
- ES 2120 - Dynamics Credits: 3
- ES 2310 - Thermodynamics I Credits: 3
- ES 2330 - Fluid Dynamics Credits: 3
- ES 2410 - Mechanics of Material I Credits: 3

Petroleum Engineering

- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- PETE 2060 - Computing and Data Mining Credits: 3

- PETE 2070 - Geology/Geophysics for Petroleum Engineers Credits:
- PETE 3015 - Phase Behavior of Reservoir Fluids Credits: 3
- PETE 3025 - Heat and Mass Transfer Credits: 3
- PETE 3110 - Reservoir Petrophysics Credits:
- PETE 3200 - Reservoir Engineering Credits: 3
- PETE 3255 - Basic Drilling Engineering Credits: 3
- PETE 3715 - Production Engineering Credits: 3
- PETE 3725 - Well Completion and Stimulation Credits: 3
- PETE 4220 - Geostatistics and Subsurface Characterization Credits: 3
- PETE 4225 - Well Test Analysis Credits: 3
- PETE 4255 - Advanced Drilling Engineering Credits: 3
- PETE 4320 - Well Log Interpretation Credits: 3
- PETE 4340 - Petroleum Economics and Law Credits: 3
- PETE 4736 - Petroleum Engineering Design Credits: 4
- PETE Elective Credits: 6
- Technical Elective Credits: 6 (See advisor for options).

Additional Requirements/Program Information

- All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

- A grade of C or better is required for the following courses:

- USP Communication courses: COM1, COM2, COM3
- All Engineering Science (ES) courses
- MATH courses that are prerequisites to ES or PETE courses

Petroleum Engineering Program Educational Objectives

Three to six years after graduation, graduates who choose to practice in Petroleum engineering should:

- (PETE-OB1) Successfully practice the profession/field of petroleum engineering or related discipline.

- (PETE-OB2) Demonstrate successful career accomplishment and civic engagement.

Petroleum Engineering Program Outcomes

During the course of study in Petroleum Engineering, the student should develop:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.

- An ability to communicate effectively with a range of audiences.

- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.

- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

- An ability to develop and conduct appropriate experimentation, analyze and

interpret data, and use engineering judgement to draw conclusions.

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Physics, B.A.

The Bachelor of Arts (BA) in Physics degree program provides a pathway for more students to major in physics, as a second major to physical chemistry, mathematics, and engineering, for example.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

Students in the Bachelor of Arts in Physics major program are required to complete 120

credits, 42 of which are upper-division credits, and the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2310 - Applied Differential Equations I Credits: 3

Electives

- Students are required to take at least 3 hours of electives from any PHYS 4000 or 5000 level course.

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. Not all courses are offered every semester and some electives may have prerequisites. Students should review

course descriptions and consult with their academic advisor to plan accordingly.

A major requires 42 hours of upper division (3000 level or above) coursework, 30 of which must be from the University of Wyoming.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better. Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

For declared physics majors, the prerequisite of MATH 2200 for PHYS1210 -is waived and concurrent enrollment is approved.

For declared physics majors, the prerequisite of MATH 2205 for PHYS 1220- is waived and concurrent enrollment is approved.

If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.

Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take the necessary required courses (e.g. LIFE 1010, MOLB 3000 etc.)

Physics, B.S.

The Bachelor of Science in Physics program is intended for students who will

pursue a career or a graduate degree in physics or related fields.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirement for Major in Physics

Students in the Bachelor of Science in Physics major program are required to complete 120 credits, 42 of which are upper-division credits, and the following courses:

- PHYS 1210 - Engineering Physics I Credits: 4

  OR

  PHYS1310 - College Physics I Credits 4
- PHYS 1220 - Engineering Physics II Credits: 4

  OR

  PHYS1320 - College Physics II Credits: 4

- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- PHYS 3000 - Methods of Physics Credits: 4
- PHYS 3640 - Modern Electronics and Experimental Techniques Credits: 4
- PHYS 3650 - Advanced Lab in Modern Physics and Electronics Credits: 4
- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3
- PHYS 4420 - Electricity and Magnetism II Credits: 3
- PHYS 4830 - Mathematical and Computational Physics I Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3
- MATH 2310 - Applied Differential Equations I Credits: 3

Electives

Students are required to take at least 3 hours of electives from any PHYS 4000 or 5000 level course.

Additional Requirements

Course sequencing may need to be altered if ACT, SAT or Math Placement scores require a student to take pre-college courses before taking required math or English courses. Not all courses are offered every semester and some electives may have prerequisites. Students should review course descriptions and consult with their academic advisor to plan accordingly.

A major requires 42 hours of upper-division (3000 level or above) coursework, 30 of which must be from the University of Wyoming.

Students must have a minimum cumulative GPA of 2.0 to graduate. At least 30 hours in the major subject must be completed with a grade of C or better. Courses must be taken for a letter grade unless offered only for S/U.

University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

For declared physics majors, the prerequisite of MATH 2200 for PHYS 1210 is waived and concurrent enrollment is approved.

For declared physics majors, the prerequisite of MATH 2205 for PHYS 1220 is waived and concurrent enrollment is approved.

If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.

Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take the necessary required courses (e.g. LIFE 1010, MOLB 3000 etc.)

Statistics, B.S.

Statisticians (data scientists) provide analytic solutions to scientific problems. Statistics is the process of using data to answer a research question. The B.S. in Statistics is applied with some theory.

Degree Requirements

This degree requires 120 credit hours, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

30 Hours of Statistics - Required Courses:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3
- STAT 4255 - Mathematical Theory of Probability Credits: 3
- STAT 4265 - Introduction to the Theory of Statistics Credits: 3
- STAT 4300 - Applied Multivariate Analysis Credits: 3
- STAT 4870 - Senior Thesis Credits: 3

Optional from (12 Hours)

- STAT 4005 - Data Wrangling Credits:
- STAT 4045 - Categorical Data Analysis Credits: 3
- STAT 4070 - Causal Models Credits: 3
- STAT 4115 - Time Series Analysis and Forecasting Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- STAT 4270 - Applied Bayesian Statistics Credits: 3
- STAT 4350 - Survey Construction and Analysis Credits: 3
- STAT 4360 - Spatial Statistics Credits: 3
- STAT 4370 - Survival Analysis Credits: 3
- STAT 4460 - Statistical Software Credits: 1
- STAT 4880 - Problems in Statistics Credits: 1-4

Mathematics (15 Hours)

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4
- MATH 2250 - Elementary Linear Algebra Credits: 3

Computer Science (6 Hours)

- COSC 1010 - Computational Thinking and Programming Credits: 3
- COSC 1030 - Computer Programming Credits: 4

Electives

- Chosen so that at least 42 hours are at the 3000/4000/5000 level

Total Hours: at Least 120

Only grades of C or better will be accepted for the major.

Minor

Astronomy Minor

A minor in astronomy appeals to students who have an interest in astronomy but intend to pursue a degree in some other field

Complete

- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3
- ASTR 2310 - General Astronomy I Credits: 4
- ASTR 2320 - General Astronomy II Credits: 4

Additional Requirements

Students minoring in Astronomy gain exposure to the principles of astronomy, physics, and mathematics. They learn to think critically and evaluate, interpret, and solve problems related to astronomical, as well as other technical and general scientific topics

Biomedical Engineering Minor

Biomedical Engineering is an interdisciplinary field that combines principles of biology and medicine with engineering design to produce healthcare innovations. Biomedical engineers contribute to medical technologies in a

variety of areas including diagnostics, therapeutics, imaging, bioinformatics, and rehabilitation.

Learning Outcomes:

A student who has completed the Biomedical Engineering Minor will have:

1. Experience and proficiency in applying principles of engineering, biology, human physiology, chemistry, calculus-based physics, differential equations, and statistics;

2. Experience and proficiency in solving biomedical engineering problems, including those associated with the interaction between living and nonliving systems;

3. Experience and proficiency in analyzing, modeling, designing, and realizing medical devices, systems, components, or processes;

4. Experience and proficiency in making measurements on and interpreting data from living systems;

5. An ability to identify, formulate, and solve complex biomedical engineering problems by applying principles of engineering, science, and mathematics.

6. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

7. An ability to communicate effectively with a range of audiences.

8. An ability to recognize ethical and professional responsibilities in medical and engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

9. An ability to function effectively on a team whose members together provide leadership, create a collaborative and

inclusive environment, establish goals, plan tasks, and meet objectives.

10. An ability to design and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

11. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Biomedical Engineering is an interdisciplinary field that combines principles of biology and medicine with engineering design to produce healthcare innovations. Biomedical engineers contribute to medical technologies in a variety of areas including diagnostics, therapeutics, imaging, bioinformatics, and rehabilitation. Accordingly, biomedical engineers typically possess a broad biology background and strong engineering design and problem-solving principles. The Biomedical Engineering minor will prepare students studying engineering or the life sciences for careers in industries that develop technologies to advance medicine.

The following curriculum is accessible to students from any major degree program in the College of Engineering and Physical Science (CEPS), as well as students from other programs on campus. Tracks covering different the different engineering disciplines that comprise biomedical engineering are provided below. Students are encouraged to select a track that most closely aligns with their interests and preparation. A specialized, more comprehensive program of study is available for students with a particular interest in medical school preparation.

Coursework:

The minimum required coursework consists of 18 credits. Students must complete one of the tracks provided below, including all required courses listed within each track. Additional coursework may be chosen from the list of Approved Elective

Coursework below. Approval by the Minor Coordinator is required for any substitutions or electives not appearing in the approved list below.

Chemical Engineering

Chemical Engineering draws upon the fundamentals of chemistry, physics, and biology to analyze and design processes. Chemical Engineers work in a variety of biomedical disciplines including pharmaceutical production, biomedical devices, tissue engineering, and medical sensing. The following coursework covers biological fundamentals and materials with a focus on process and device design.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4100 - Biochemical Engineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3

  + 6 Credits of approved coursework

Electrical Engineering

This track offers opportunities for those interested in applying electrical engineering to problems of environmental science, wildlife studies, biology, and medicine. Application areas include the use of telemetry for wildlife management, environmental monitoring, design and development of biological and medical instrumentation and clinical engineering.

- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- KIN 2040 - Human Anatomy Credits: 3

Mechanical Engineering

With a focus upon biomaterials and biomechanics, this track combines biology and physiology with mechanical engineering. This coursework helps students apply mechanical engineering principles to biological challenges including prosthetics, robotic surgery instruments, and medical device design.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- ME 4250 - Biomechanics of Movement Credits: 3

+ 3 Credits of approved coursework

Physical and Life Sciences

This track is encouraged for students **not** majoring in an engineering discipline or those who may be preparing for medical school*. Relying heavily upon advanced coursework from the life sciences, this track will provide students with an engineering perspective and design mindset. Substitutions may be made to customize the track to students' interests and preparation, but must be approved by the Minor Coordinator.

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4

*For students who are interested in medical school, please contact advisors at the College of Health Sciences Prehealth Advising Office

(https://www.uwyo.edu/preprof/index.html).

Approved ElectiveCoursework:

The following approved courses may be counted in fulfillment of additional technical elective requirements within the discipline-specific track, but may not be substituted for required courses.

- CHE 3100 - Fundamentals of Bioengineering Credits: 3
- CHE 4100 - Biochemical Engineering Credits: 3
- CHE 4160 - Biomedical Engineering-Transport Processes Credits: 3
- CHE 4165 - Biomaterials Credits: 3
- CHE 3900 - Undergraduate Research Credits: 1-6 (in an appropriate laboratory)
- CHE 4220 - Metabolic and Protein Engineering Credits: 3
- BE 4810 - Bioinstrumentation Credits: 3
- BE 4820 - Biomedical Signal Processing Credits: 3
- EE 4800 - Problems in _____ Credits: 1-6 Problems in Bioengineering
- EE 5410 - Neural and Fuzzy Systems Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- LIFE 3600 - Cell Biology Credits: 4
- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3000 - Introduction to Molecular Biology Credits: 3
- MOLB 4100 - Clinical Biochemistry Credits: 4
- MOLB 4260 - Quantitative Microscopy Credits: 1
- MOLB 4400 - Immunology Credits: 4
- MOLB 4600 - Advanced Biochemistry Credits: 3
- MOLB 4610 - Biochemistry 2: Molecular Mechanisms Credits: 3

- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- ZOO 4125 - Integrative Physiology Credits: 5

NOTE
CHE 3100 fulfills the LIFE 2021 & 3050 pre-requisite requirements for CHE 4100, 4160, and 4165. Alternatively, students may take the following in lieu of CHE 3100 as a pre-requisite: MICR 2021 Microbiology (4) and MOLB 3610 Principles of Biochemistry (4).

Chemistry Minor

The Minor in Chemistry enables students with majors in disciplines outside of chemistry to augment their education with knowledge of underpinning chemical principles.

Required Courses:

- CHEM 1020 - General Chemistry I Credits: 4

  or CHEM 1050 Advanced General Chemistry I
- CHEM 1030 - General Chemistry II Credits: 4

  or CHEM 1060 Advanced General Chemistry II
- CHEM 2230 - Quantitative Analysis Credits: 5
- CHEM 2420 - Organic Chemistry I Credits: 4

Elective Course: Choose one of the following (3-4 hrs)*

- CHEM 2440 - Organic Chemistry II Credits: 4

- CHEM 3020 - Environmental Chemistry Credits: 3
- CHEM 3550 - Physical Chemistry for the Life Sciences Credits: 3
- MOLB 3610 - Principles of Biochemistry Credits: 4
- CHEM 4110 - Introductory Inorganic Chemistry Credits: 3
- CHEM 4230 - Instrumental Methods of Chemical Analysis Credits: 5
- MOLB 4400 - Immunology Credits: 4
- CHEM 4507 - Physical Chemistry I Credits: 3
- MOLB 4600 - Advanced Biochemistry Credits: 3

Additional Requirements

Chemistry is the study of composition, properties of matter, and structures in chemistry. As a Chemistry minor, you will gain knowledge about mathematics, physics, and other types of life sciences.

Note: If you are in the College of Arts and Sciences, at least 12 credits in a minor must be in courses NOT being counted towards your major. If you are in a different College, this rule does not currently apply. A grade of C or better is required in all courses.

Student will be assigned an advisor in the Chemistry department to consult regarding their minor. Appropriate substitutes for the elected course may be approved by a student's Chemistry advisor, and the head of the Department of Chemistry.

Computer Engineering Minor

Adds value to one's major by equipping students with fundamental skills needed to design, analyze, and develop computer systems for a wide range of application domains.

Accreditation

The Computer Engineering Minor is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer and Similarly Named Engineering Program Criteria.

Minor Requirements:

You must have a minimum of 12 credits of courses that are not counted toward your major.

- COSC 2150 - Computer Organization Credits: 3
- EE 4490 - Hardware Descriptive Language (HDL) Digital Design Credits: 3
- 17 credits of electrical engineering (EE) or CPEN Elective courses.

COSC Courses

The following COSC courses can also be used:

- COSC 1010 - Computational Thinking and Programming Credits: 3

OR

- COSC 1015 - Introduction to Programming for Data Science Credits: 3

- COSC 1030 - Computer Programming Credits: 4
- COSC 2030 - Data Structures Credits: 0
- COSC 4760 - Computer Networks Credits: 3

Computer Science Graduate Minor

A graduate minor in Computer Science gives you the skills and knowledge to understand how software-intensive systems are designed and implemented. With these

skills, you can use computers to extend the state of the art in your major discipline.

Requirements:

12 credits are required, and must be completed with a grade of B or better.

- COSC 5110 - Analysis Of Algorithms Credits: 3
- 9 additional credits of 5000-level computer science courses

Computer Science Minor

Add value to your degree by learning computing including programming, databases, mobile computing,

web applications, machine learning and artificial intelligence.

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Requirements

18 credits of Computer Science courses are required and must be completed with a grade of C or better.

COSC 1101 and COSC 1200 cannot be used for the Computer Science Minor.

Computing Minor

The minor in computing encourages students to explore the application of computing and digital technologies in their major discipline and to prepare for careers that are impacted by new technology.

The minor focuses on providing broad and accessible opportunities for experiential learning and the acquisition of core computing competencies. The flexible nature of the minor allows students to tailor the program for their primary program of study and computing interest.

Additional Information

This minor is a new program housed within the School of Computing. Please contact us to discuss how to tailor these courses to your declared major.

CONTACT US:

School of Computing

Engineering Building, Room 4083
Phone: 1 (307) 766-5299
Email: uwyo-soc@uwyo.edu

Course Requirements

- COMP 2000 - Computing and Society Credits: 2

  OR discipline specific computing focused course on computing and society
- COMP 3000 - Basic Computing Credits: 3

  OR discipline specific foundational computing course
- COMP 3500 - Advanced Computing Credits: 3

  OR discipline specific depth of computing course
- COMP 4000 - Practicum I Credits: 4

  Computer Programing Course Credits: 3
  Computing Electives Credits: 3

Construction Management Minor

The Minor in Construction Management is a 15 credit hour program available to UW undergraduate students in other majors. A Minor in Construction Management develops skills and knowledge that can applied in the construction industry.

For UW undergraduate students in other majors, a Minor in Construction Management may be earned by:

Completing 15 credits by taking the following CM courses:

CM 2000

CM 2300

CM 2600

CM 3210

CM 3100

Architectural Engineering majors will not be permitted to use the following courses to satisfy the Minor requirement (or as ARE Major Electives), because they duplicate content in required courses in their major:

CM 2120: Construction Materials and Methods

CM 2200: Structures

CM 2400: MEP Systems

CM 2600: Construction Documents

CM 3220: Soils and Concrete

CM 4600: Building Info. Modeling

Civil Engineering majors will not be permitted to use the following courses to satisfy the Minor requirements (or as CE MSTP Electives), because they duplicate content in required courses in their major:

CM 2200: Structures

CM 3220: Soils and Concrete

Minors in Construction Management are not accredited

Electrical Engineering Minor

The electrical engineering minor adds value to one's major by equipping students with fundamental skills in circuit design, signals and systems analysis, computer logic, or electromagnetic theory.

Electrical Engineering Minor Requirements:

You must have a minimum of 12 credits of EE/BE courses that are not counted toward your major.

- ES 2210 - Electric Circuit Analysis Credits: 3
- plus a total of 20 credits of electrical engineering (EE) or bioengineering (BE) courses

Geography Minor

The Minor in Geography program provides students with foundational knowledge in geography while allowing them to focus on the areas of physical geography, human geography, and natural resource management.

Core Content (10 Credits)

Each of the following:

- GEOG 1010 - Introduction to Physical Geography Credits: 3

OR

- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

- GEOG 1000 - World Regional Geography Credits: 3

OR

- GEOG 1020 - Introduction to Human Geography Credits: 3

- GIST 1200 - Geospatial Foundations Credits: 3

OR

One Course from each of the following 2 areas (9 Credits)

Human Geography

- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4013 - Political Geography Credits: 3
- GEOG 4500 - The American Landscape Credits: 3
- GEOG 4502 - Images of Wyoming and the West Credits: 3
- GEOG 4550 - Geography of Wine Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3

Physical Geography

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- GEOG 4450 - Fluvial Geomorphology Credits: 4
- GEOG 4460 - Biogeography Credits: 3

- GEOG 4470 - Fire Ecology Credits: 3

3 Credits in Geography electives

GEOG coures 1000-6000 level

Geology Minor

A minor in geology is intended for those students majoring in other programs who are interested in complementing their degree with a broader understanding of geology and the earth sciences.

Required Courses

Students are required to take 18 hours of coursework in the Department of Geology and Geophysics including one GEOL 1000-level course (3-4); one GEOL 2000-level course (3-4); **and fulfill the remaining credit hours (10-12) with GEOL 2000-level or higher courses in consultation with their adviser.** A grade of C or better is required in each of these courses.

- GEOL 1005 - Earth History Credits: 4

  OR another 1000-level GEOL course **Credits / Units:** 3-4
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

  OR another 2000-level GEOL course **Credits / Units:** 3-4

  AND fulfill remaining credits with 2000-level or higher GEOL courses in consultation with thier adviser. **Credits / Units:** 10-12

Interdisciplinary Computational Science Graduate Minor

In recognition of the importance of modeling and simulation in an increasing

number of applications, the Graduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

Requirements

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn at least 12 credits in graduate level classes (5000).
- Within the 15 credits, the student must earn 6 credits outside of her/his department.
- Only grades of B or better will be accepted for a course counting towards the minor.
- For all students, the 15 hours of coursework will be divided into 9 credit hours of core courses and 6 credit hours of electives.

Core Courses

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3

OR

- COSC 5310 - Computational Methods in Applied Sciences I Credits: 3
- COSC 5010 - Graduate Topics in Computer Science Credits: 1-6
- MATH 5340 - Computational Methods II Credits: 3

OR

- COSC 5340 - Computational Methods II Credits: 3

- BOT 4550 - Computational Biology Credits: 4

OR

- BOT 5550 - Computational Biology Credits: 4
- GEOL 4030 - Groundwater Flow and Solute Transport Modeling Credits: 3

OR

- GEOL 5030 - Groundwater Flow and Solute Transport Modeling Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3

- ME 5462 - Computational Fluid Dynamics II Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3

Electives

- COSC 5110 - Analysis Of Algorithms Credits: 3
- STAT 5680 - Advanced Bayesian Statistics Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- High-Performance Computing in Geosciences, 2 hrs
- MATH 5320 - Mathematics Modeling of Processes Credits: 3

- CHEM 4560 - Molecular Modeling Credits: 3

OR

- CHEM 5560 - Molecular Modeling Credits: 3
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3

Interdisciplinary Computational Science Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Undergraduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

The Undergraduate Minor in Computational Science is based on the following requirements:

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn 9 credits at the upper-division level (3000 or above).

- Within the 15 credits, the student must earn 6 credits outside of her/his major.
- Within the 15 credits, the student must earn at least 6 credits in core courses.
- Only grades of C or better will be accepted for the minor.

The 15 hours of coursework are divided between core and elective courses as listed below.

Core Courses

- MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3

OR

- COSC 4340 - Numerical Methods for Ordinary and Partial Differential Equations Credits: 3
- High-Performance Computing (Offered as a topics course).
- MATH 3340 - Introduction to Scientific Computing Credits: 3

OR

- COSC 3340 - Introduction to Scientific Computing Credits: 3

- STAT 4460 - Statistical Software Credits: 1

Elective Courses

- BOT 4550 - Computational Biology Credits: 4

OR

- BOT 5550 - Computational Biology Credits: 4
- COSC 3020 - Algorithm Design and Analysis Credits: 4
- PHYS 4840 - Mathematical and Computational Physics II Credits: 4
- CHEM 4560 - Molecular Modeling Credits: 3

OR

- CHEM 5560 - Molecular Modeling Credits: 3
- ES 3070 - C with Numerical Methods for Engineers
- MATH 4300 - Introduction to Mathematical Modeling Credits: 3

- ME 4040 - Introduction to Finite Elements Credits: 3
- COSC 4820 - Database Systems Credits: 3

International Engineering Minor

The International Engineering minor is an 18 credit hour program open to all engineering students. Cornerstones are a study abroad experience and coursework to help students gain understanding of perspectives and viewpoints from around the world.

Study Abroad Requirement

All students earning the International Engineering Minor must complete an educational experience outside of the United States. Examples are:

- Semester or year abroad at a college or university
- UW faculty-led study abroad program
- International service-learning experience (such as Engineers Without Borders, or Alternative Spring Break)
- Internship with a company outside the United States
- Research experience outside the United States

Coursework

The coursework is 18 total credits - these credits may also count toward major degree program. The coursework is intended to help students gain understanding of perspectives and viewpoints from around the world.

Lower Division Coursework

Select 9 credits from the following courses:

- Foreign language courses (except American Sign Language)
- 1000 or 2000 level Engineering courses completed during a Study Abroad program
- 1000 or 2000 level courses in International Studies (INST)
- Any of the courses listed below
- ANTH 2200 - World Culture Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- ECON 1000 - Global Economic Issues Credits: 3
- ERS 1300 - Oil: Business, Culture, and Power Credits: 3
- GEOG 1000 - World Regional Geography Credits: 3
- RELI 1000 - Introduction to Religion Credits: 3
- RELI 2315 - History of Non-Western Religions Credits: 3
- INBU 1040 - Introduction to International Business Credits: 3

Upper Division Coursework

Select 9 credits from the following courses:

- 3000 or 4000 level Engineering courses completed during a Study Abroad program
- 3000 or 4000 level courses in International Studies (INST)
- Engineering design courses with an International focus
- Internship credits earned from an International internship
(Must be approved by International Engineering Minor Coordinator, in advance, with course syllabus or internship plan with detailed International content.)
- Undergraduate Research (for-credit) experience with an International focus
(Must be approved by International Engineering Minor Coordinator, in advance, with course syllabus or internship plan with detailed International content.)
- Any of the courses listed below
- ARE 3030 - History of Architecture Credits: 3
- ART 3030 - History of Architecture Credits: 3

- CHE 4000 - Environment, Technology and Society Credits: 3
- PETE 4000 - Environment, Technology and Society Credits: 3

Land Surveying Minor

May be paired with any major and can be completed 100% online. These classes may be used toward meeting education requirements for licensure. Concepts include surveying, legal, mapping, real property, ethics, boundary. This program requires 18 credits.

Additional Information

The Land Surveying minor may be paired with any major. The intent of this minor is to prepare the student for the pursuit of Professional Licensure. Those only seeking the remote learning LS courses should see the Cadastral Land Surveying Certificate found at http://www.uwyo.edu/civil/landsurvey/. All LS classes are offered as distance learning through Distance Education Programs.

Ethics Requirement

- LS 3300 - Ethics for the Professional Surveyor Credits: 1

OR

- MGT 2030 - Principle-Based Ethics Credits: 3

Curriculum Requirements:

- LS 2010 - Engineering Surveying Lecture Credits: 2

AND

- LS 3300 - Ethics for the Professional Surveyor Credits: 1

OR

- CE 2070 - Engineering Surveying Credits: 4

AND minimum of 15 credits from the following list:

- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2110 - Real Property Law Credits: 3
- LS 2400 - Basic Geodesy for Surveyors Credits: 2
- LS 2410 - GIS in Surveying Credits: 3

OR

- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- LS 3100 - Real Property Descriptions Credits: 2
- LS 3110 - Boundary Evidence Credits: 2
- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4

Total Credits: 18 Hours

The intent of this application based minor is to provide students with more indepth knowledge of surveying. Those seeking Professional Licensure should see the Cadastral Surveying Certificate.

Mathematics Minor

The minor in mathematics focuses on fundamental aspects of mathematics that are essential for further study in mathematics and a variety of other disciplines. Students may customize the minor by choosing the appropriate transition course and upper-division electives.

Lower Division Core Courses

- MATH 2200 - Calculus I Credits: 4
- MATH 2205 - Calculus II Credits: 4
- MATH 2210 - Calculus III Credits: 4

- MATH 2310 - Applied Differential Equations I Credits: 3

- MATH 2250 - Elementary Linear Algebra Credits: 3 **AND**
- MATH 2485 - Mathematics Major Seminar Credits: 2

Upper Division

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the minor.

At the upper division, all mathematics minors must take ONE of

- MATH 3205 - Analysis I: Elementary Real Analysis Credits: 3

OR

- MATH 3500 - Algebra I: Introduction to Rings and Proofs Credits: 3

OR

- MATH 3340 - Introduction to Scientific Computing Credits: 3
- as well as 3 additional credits of upper division math courses (3000 and above)

Physics Minor

A minor in physics appeals to students who have an interest in physics but intend to pursue a degree in some other field.

Complete

- PHYS 1210 - Engineering Physics I Credits: 4

OR

- PHYS 1310 - College Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4

OR

- PHYS 1320 - College Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2320 - Physics IV: Modern Physics Credits: 3

At Least Two of the Following:

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4410 - Electricity and Magnetism I Credits: 3
- PHYS 4510 - Thermodynamics and Statistical Mechanics Credits: 3

Additional Requirements

The physics minor provides students with the fundamental concepts of physics beyond the introductory level. Through rigorous hands-on experience, students deepen their understanding of foundational concepts and develop their quantitative skills.

Process Control Minor

Process control engineers optimize processes and implement quality control systems in the manufacturing industry. They design, test, and oversee the implementation of new processes. Process control engineers are often employed at manufacturing plants that process chemicals, metals, and other materials.

Required Courses

- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 2090 - Practical Fundamentals of Process Control Credits: 2
- CHE 3090 - Applying Simulation to Dynamic Processes Credits: 1
- CHE 4092 - Controlling Process Systems Credits: 3

- CHE 4090 - Process Dynamics and Control Credits: 3

or

- EE 4620 - Automatic Control Systems Credits: 3

or

- EE 4621 - Honors Automatic Control Systems Credits: 3

Approved Elective Courses

At least 6 hours of approved elective courses are required for this minor.

- ES 2210 - Electric Circuit Analysis Credits: 3
- EE 2220 - Circuits and Signals Credits: 4
- EE 3220 - Signals And Systems Credits: 3
- ME 4020 - Design of Mechanical/Electronic Systems Credits: 3
- COSC 4450 - Computer Graphics Credits: 3
- COSC 4765 - Computer Security Credits: 3
- CHE 4972 - Internship in Process Control Engineering Credits: 1-6

Learning Outcomes

An engineer who has completed the Process Control and Instrumentation Minor will be able to examine an engineering process that requires automated control and provide a practical control design by:

- Identifying key performance and technical features of the process
- Specifying process variables to control to achieve desired process outcomes
- Identifying the appropriate manipulated variables to achieve control
- Selecting appropriate measurement instrumentation for process variables
- Specifying needed final control elements to effect change of manipulated variables

- Selecting an appropriate controller and control algorithm that achieves stable control
- Testing and tuning the control design in simulation
- Evaluating the control design against performance and economic objectives
- Understand key nomenclature and terms in process control
- Understand the difference between analog and digital components

Quantum Information Science & Engineering, Minor

The field of quantum information science and engineering (QISE) is increasingly pivotal in technological and scientific innovations.

Core Courses

- PHYS 1210 - Engineering Physics I Credits: 4
- PHYS 1220 - Engineering Physics II Credits: 4
- PHYS 2310 - Physics III: Waves and Optics Credits: 4
- PHYS 2870 Quantum Mechanics for Non-physicists
- Introduction to Quantum Computing

Elective (Students pick one)

- PHYS 4210 - Classical Mechanics I Credits: 3
- PHYS 4310 - Quantum Mechanics Credits: 3
- PHYS 4340 - Semiconductor Materials and Devices Credits: 3
- PHYS 4710 - Solid-State Physics Credits: 3
- PHYS 4720 - Solid State Electronic Devices Credits: 3

Statistics Minor

Statisticians (data scientists) provide analytic solutions to scientific problems. Statistics is the process of using data to answer a research question. The B.S. in Statistics is applied with some theory. The minor of Statistics is all application.

Requirements

The following courses are required for a statistics minor:

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 4015 - Regression Analysis Credits: 3
- STAT 4025 - Design and Analysis of Experiments I Credits: 3

9 Additional Hours from the Following:

- STAT 4005 - Data Wrangling Credits:
- STAT 4045 - Categorical Data Analysis Credits: 3
- STAT 4070 - Causal Models Credits: 3
- STAT 4115 - Time Series Analysis and Forecasting Credits: 3
- STAT 4155 - Fundamentals of Sampling Credits: 3
- STAT 4255 - Mathematical Theory of Probability Credits: 3
- STAT 4265 - Introduction to the Theory of Statistics Credits: 3
- STAT 4350 - Survey Construction and Analysis Credits: 3
- STAT 4360 - Spatial Statistics Credits: 3
- STAT 4370 - Survival Analysis Credits: 3
- STAT 4300 - Applied Multivariate Analysis Credits: 3

- STAT 4270 - Applied Bayesian Statistics Credits: 3

Total: 18-19 Hours

Only grades of C or better will be accepted for the minor.

Graduate

Architectural Engineering, M.S.

The M.S. in Architectural Engineering is offered for students who wish to pursue advanced coursework and research in the discipline beyond the B.S. This is not an accredited pre-professional degree. 30 credits required.

Plan A (Thesis)

The degree of master of science, Plan A, requires a minimum of 26 hours of coursework and a minimum of 4 hours thesis research in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework for approval by the departmental graduate studies committee (AREGS), and the department head.

Plan A is required of all state or contract supported graduate assistants.

Plan B (Non-thesis)

Requires a minimum of 30 hours of coursework and a Plan B paper, in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework and the course number that the Plan B paper covers for approval by the AREGS and the department head.

Artificial Intelligence, M.S.

This program will be focus on advanced study and research in the field of AI including Explainable AI. It is designed to equip students with the necessary knowledge, skills, and expertise to understand, develop, and apply AI technologies in various disciplines.

Program Curriculum

Core Courses (12 credits)

The program begins with foundational courses covering essential AI topics, such as machine learning, computer vision, and data mining.

These courses provide a solid understanding of AI's fundamental principles and algorithms.

COSC 4550/5550 Introduction to Artificial Intelligence

COSC 4555/5555 Machine Learning

COSC 4557/5557 Practical Machine Learning

COSC 4570/STAT 4240/5240 Data Mining.

Elective Courses(12 credits for Plan A and 16 credits for Plan B).

Students can choose from various elective courses based on their interests and career goals. These courses may include specialized topics like deep learning, natural language processing, reinforcement learning, neural networks, robotics, AI ethics, AI in healthcare, AI for business, and intelligent agents. Electives allow students to deepen their knowledge in specific areas of AI that align with their research or professional interests.

PHIL 5440 Topics in the Philosophy of Mind

COSC 5560 Modern Robots and Softbots

Research Projects for Plan B Students:

Throughout the Plan B degree program, students are involved in research projects supervised by faculty members or industry experts. These projects provide hands-on experience designing and implementing AI systems, conducting experiments, analyzing data, and addressing real-world AI challenges. Research projects often culminate in a final research paper.

Seminars (2 credits)

Regular seminars and workshops will be organized to expose students to the latest research advancements, emerging trends, and challenges in AI. Experts from academia, industry, and government will deliver talks and engage in discussions, allowing students to broaden their perspectives and stay updated with the evolving AI landscape. The SoC and EECS will host, cohost, or support tech talks, colloquia, or speaker series with discipline-specific and broad AI foci.

Year 1: Fall

- COSC 4550 - Introduction to Artificial Intelligence Credits: 3

  OR

  COMP 5300 Basic Computing II. Credits: 3; The overarching goal is that students understand how to use basic computational and digital tools and approaches to solve problems across scientific, social, and human domains. This course will allow students to explore or embed their desired contextual disciplines into the foundational concepts of the School of Computing. (This is not an established UW course yet; it is proposed for development in the SoC post-baccalaureate graduate certificate program).
- COSC 4555 - Machine Learning Credits: 3

  OR
- COSC 4557 - Practical Machine Learning Credits:

- STAT 4270 - Applied Bayesian Statistics Credits: 3

OR

- STAT 5280 - Models for Hierarchical Data Credits: 3

OR

- STAT 5380 - Bayesian Data Analysis Credits: 3

Year 1: Spring

- STAT 4240 - Data Mining Credits: 3

Natural Language Processing (NLP). Credits: 3; Text preprocessing and tokenization, language modeling and syntactic analysis, named entity recognition and sentiment analysis, machine translation and question answering.

OR

- COSC 5220 - Languages and Automata Credits: 3
- COSC 5540 - Computer Vision Credits: 3

Year 2: Fall

Deep Learning. 3 credits. Topics include neural networks and their architectures, convolutional neural networks (CNNs) for computer vision, recurrent neural networks (RNNs) for sequential data, and deep reinforcement learning

OR

- EE 5410 - Neural and Fuzzy Systems Credits: 3

OR

- EE 5440 - Geometric/Deep Computer Vision Credits: 3
- COSC 5552 - Advanced Topics in AI Credits: 1-3

OR

- **COMP 5350 Advanced Computing II.** Credits: 3; Students will learn how to use the digital tools available in their fields of study as well as understand the theory of how digital approaches and computational methods will change their fields in the future. This course allows for the depth of knowledge within any discipline to be

computationally driven towards competency and fluency. (This is not an established UW course yet; it is proposed for development in the SoC post baccalaureate graduate certificate program)

- Other graduate electives with focus on AI or application of AI OR COSC.

OR

- Seminars and Workshops. 2 Credits

Year 2: Spring

- COSC 5960 - Thesis Research Credits: 1-12
- Other graduate electives with a focus on AI or the application of AI OR COSC. Seminars and Workshops. 2 Credits.

Atmospheric Science, M.S.

The Master of Science degree in Atmospheric Science prepares the recipient to work in fields related to meteorology, weather and forecasting, air quality, climate change and environmental regulation.

Program Specific Degree Requirements

Approval of research plan by the graduate committee

Colloquium and oral defense of M.S. thesis

Approval of M.S. thesis by the graduate committee

A minimum of 30 hours of acceptable graduate credit hours that includes at least:

- 26 hours of acceptable graduate coursework and
- 4 hours of thesis research

21 graduate credits must be earned in the Department of Atmopheric Science

Required Courses

These courses are required for the master's program.

- ATSC 5010 - Physical Meteorology I Credits: 4
- ATSC 5011 - Physical Meteorology II Credits: 4
- ATSC 5014 - Dynamic Meteorology Credits: 4
- ATSC 5016 - Synoptic Meteorology Credits: 4
- ATSC 5018 - Ethics and Research Methods Credits: 1

Atmospheric Science, Ph.D.

The Doctorate of Philosophy degree in Atmospheric Science prepares the recipient for a career in research studying the atmosphere. Graduates may work in academia, governmental laboratories and agencies, and private industry.

Program Specific Degree Requirements

Approval of research plan by the graduate committee

Successful completion of the Preliminary Examination

Colloquium and oral defense of the Ph.D. Dissertation

Approval of the Ph.D. dissertation by the graduate committee

A minimum of at least 72 hours of acceptable graduate credit hours that includes at least:

- 42 hours of acceptable graduate coursework and
- 10 hours of thesis or dissertation research

24 graduate credits must be earned in the Department of Atmospheric Science

Chemical Engineering, M.S.

Graduate Study Guidelines

All incoming M.S. Plan A and M.S. Plan B students must have an adviser. The student is responsible for contacting faculty members in order to find an adviser.

All Chemical Engineering graduate students must take the following Chemical Engineering Core courses:

- CHE 5020 - Thermodynamics Credits: 3
- CHE 5010 - Transport Phenomena Credits: 3
- CHE 5030 - Reaction Kinetics Credits: 3
- CHE 5355 - Mathematical Methods in Chemical Engineering Credits: 3

Credit Hours

- Total (from above) Credits: 12
- CHE 5960 - Thesis Research Credits: 4
- Electives Credits: 14
- Total Credits: 30

Plan B (Non-Thesis)

The coursework requirements are the same as the M.S. Plan A requirements except that Thesis Research (CHE 5960) is not required. Plan B students take an additional 4 hours of elective course credits (a total of 30 hours required).

M.S. Plan B students must write a paper on a topic assigned by the adviser and present their work the their graduate committee. This paper must be submitted to the student's graduate committee for approval at least one week prior to the oral presentation.

M.S. Seminar Requirements

All chemical engineering graduate students must enroll in CHE 5890, Chemical Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Registered off-campus graduate students can be exempt from having to enroll in CHE 5890.

M.S. Thesis

All M.S. Plan A students must orally defend their thesis at a public final examination. At least two weeks before the examination, the student must provide each member of the graduate committee with a copy of the written M.S. thesis and provide the department an announcement of their defense for advertisement by bulletin board, e-mail, or other means. The results of the examination are reported on the Report of Final Examination form. Graduate committee members may request changes in the thesis, and they may postpone signing the form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Graduate Student Resources web site. This copy will be rejected if the format standards specified by the Thesis and Dissertation Format Guide are not met. This guide allows for a publication-ready format. If required by the department and/or committee, additional printed copies should be delivered to the University Store for binding. Students should consult with the adviser to determine if the adviser wants a copy of the thesis, dis¬sertation, or other research documentation.

Chemical Engineering, Ph.D.

The Department of Chemical Engineering offers graduate programs leading to the M.S. and Ph.D. degrees in chemical engineering.The M.S. degree is offered under Plan A and Plan B. In addition, an environmental engineering program, run jointly by the Department of Chemical Engineering and the Department of Civil and Architectural Engineering, offers graduate programs leading to an M.S. in environmental engineering under either Plan A or Plan B.

The mission of the graduate program in Chemical Engineering is to prepare students to be leaders in industry, government, or academia.

A master's degree is not required to enter a Ph.D. program.

Graduate Core Classes

All incoming Ph.D students must have an adviser. The student is responsible for contacting faculty members in order to find an adviser.

All Chemical Engineering graduate students must take the following Chemical Engineering Core courses:

- CHE 5020 - Thermodynamics Credits: 3
- CHE 5010 - Transport Phenomena Credits: 3
- CHE 5030 - Reaction Kinetics Credits: 3
- CHE 5355 - Mathematical Methods in Chemical Engineering Credits: 3

Doctoral Program

Credit Hours

- CHE 5980 - Dissertation Research Credits: 30

- Electives - Credits: 30 (CHE 5980 will count toward your electives)
- Total Credits: 72

Ph.D. Seminar Requirements

All chemical engineering graduate students must enroll in CHE 5890, Chemical Engineering Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Registered off-campus graduate students can be exempt from having to enroll in CHE 5890.

Ph.D. Preliminary Examination

All Ph.D. students must pass a preliminary examination no later than the end of the student's fifth full semester in the graduate program and a least 15 weeks prior to the dissertation defense. Prior to attempting the Ph.D. preliminary examination, students must have completed all required core classes no later than the end of their fourth semester in the graduate program. Students must file a program of study prior to attempting the preliminary examination.

The goal of the preliminary exam is for the student to demonstrate his or her research progress to-date and present the research proposition that will be investigated and lead to his or her final dissertation. The preliminary exam consists of three components: a written document provided to each member of the student's graduate committee at least one week prior to the oral presentation; a public oral presentation; and a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion

of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. A form sent by the student's adviser to the Office of the Registrar reports the results of the examination.

Ph.D. Final Examination (Dissertation Defense)

All Ph.D. students must orally defend their thesis or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public thesis defense in oral presentation format. At least two weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis of Ph.D. dissertation and provide the department an announcement of their defense for advertisement by bulletin board, e-mail, or other means. The results of the examination are reported on the Report of Final Examination form. Graduate committee members may request changes in the thesis or dissertation, and they may postpone signing the form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Graduate Student Resources web site. This copy will be rejected if the format standards specified by the Thesis and Dissertation Format Guide are not met. This guide allows for a publication-ready format. If required by the department and/or committee, additional printed copies should be delivered to the University Store for binding. Students should consult with the adviser to determine if the adviser wants a copy of the thesis, dissertation, or other research documentation.

Chemistry, M.S.

The MS degree introduces students to critical thinking necessary to work independently in industrial settings & prepares you for a professional career. Provides classroom training, presentation & teaching skills along with professional development

Plan A (Thesis)

In addition to fulfilling the minimum university requirements, a student must take the Career Skills course (CHEM 5000) plus one 3 hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding special topics and research courses. These courses must be graduate courses, 5000 and above.

One departmental seminar is required to be presented on the thesis research.

Take 9 Credits

A student may also take 9 credits of any combination of

- CHEM 5190 - Research in Inorganic Chemistry Credits: 1-3
- CHEM 5290 - Research in Analytical Chemistry Credits: 1-3

- CHEM 5390 - Research in Organic Chemistry Credits: 1-3
- CHEM 5590 - Research in Physical Chemistry Credits: 1-3
- CHEM 5790 - Research in Biological Chemistry Credits: 1-3

Additional Requirements

The M.S. committee consists of the student's major professor and two other members. The M.S. Committee is responsible for advising the candidate concerning course work and research. The M.S. Committee is also responsible for the final examination of the candidate. In addition to a thesis, the M.S. candidate is also required to present a departmental seminar on the thesis topic.

A student must take the Career Skills course (CHEM 5000) plus one three-hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding special topics and research courses. These courses must be graduate courses, 5000 and above. A student may also take nine credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790. One departmental seminar is required on the thesis research.

A student in a M.S. program who is in good standing with a grade point average equal to a B or greater may petition to transfer into the Ph.D. program upon approval of his/her M.S. committee and recommendation of the Graduate Committee.

Chemistry, Ph.D.

Our Ph.D. program is a research degree in advanced chemistry that prepares our students for careers in academia or as leaders in industry. A Master's degree is not required; students may enter directly into the Ph.D. program.

Students May Also Take

A student may also take 12 credits of any combination of

- CHEM 5190 - Research in Inorganic Chemistry Credits: 1-3
- CHEM 5290 - Research in Analytical Chemistry Credits: 1-3
- CHEM 5390 - Research in Organic Chemistry Credits: 1-3
- CHEM 5590 - Research in Physical Chemistry Credits: 1-3
- CHEM 5790 - Research in Biological Chemistry Credits: 1-3

Area Selected as a Major

In the area selected as a major, the student will take the following as a minimum:

Analytical

- CHEM 5250 - Advanced Chemical Instrumentation Credits: 3
- plus 9 hours of graduate level analytical courses

Inorganic

- 12 hours of graduate level inorganic courses

Organic

- CHEM 5320 - Spectroscopic Methods of Structure Determination Credits: 3
- CHEM 5330 - Advanced Organic Chemistry Credits: 3

- CHEM 5340 - Synthetic Methods in Organic Chemistry Credits: 3
- CHEM 5350

Physical

- any three graduate level physical chemistry courses

Additional Requirements

In addition to fulfilling the minimum university requirements, a student must take the Career Skills course (CHEM 5000) plus one 3 hour graduate course (5000 and above) in each of the four areas (inorganic, analytical, organic, and physical), excluding special topics, tool courses CHEM 5130, CHEM 5320, CHEM 5760, and research courses.

A student may also take 12 credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790.

Students must obtain satisfactory performance on a series of written major field cumulative examinations, including special topics.

Students must obtain satisfactory performance on a preliminary examination, part written and part oral.

Students must present a seminar based on the dissertation research. Students must also obtain one additional credit of 5000 by presenting a divisional or departmental seminar or an oral presentation at a regional or national research meeting. In addition, students must make one presentation at the annual University of Wyoming Graduate School Symposium.

Civil Engineering, M.S.

The M.S. in Civil Engineering is offered for students who wish to pursue advanced coursework and research in the discipline beyond the B.S. This is not an accredited pre-professional degree. 30 credits required.

Program Specific Degree Requirements

Master's Program

Areas of study in the master of science program include: building mechanical systems engineering, environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources engineering. The master of science degree in each of these areas requires completion of 12 to 18 hours of engineering courses related to the particular program area.

Plan A (Thesis)

The degree of master of science, Plan A, requires a minimum of 26 hours of coursework and a minimum of 4 hours thesis research in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework for approval by the departmental graduate studies committee (CEGS), and the department head.

Plan A is required of all state or contract supported graduate assistants.

Plan B (Non-Thesis)

Requires a minimum of 30 hours of coursework and a Plan B paper, in addition to the minimum requirements set forth in this bulletin.

Early in the program, the student must submit a program of study listing coursework and the course number that the Plan B paper covers for approval by the CEGS and the department head.

Civil Engineering, Ph.D.

The Ph.D. degree in Civil Engineering is offered for students who wish to pursue advanced coursework and a comprehensive research project led by a faculty advisor. 42 credits and a dissertation are required.

Computer Science, M.S.

A master's degree that prepares students for careers in industry or for a PhD level education in Computer Sciences. Topics include: Analysis of Algorithms, AI, ML, Cybersecurity, and HCI.

Program Specific Degree Requirements

Plan A (Thesis)

A total of at least 31 credit hours must be completed. The student must complete a minimum of 27 hours of courses, including the CORE and BREADTH REQUIREMENTS. At least 19 credit hours must be COSC courses. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 6 hours of 4000-level courses, may be included with the approval of the supervising M.S. committee.

Plan A students are required to formally defend their theses before their supervising committees. All defenses must be open and announced at least two weeks in advance. The thesis must be distributed to the committee at least two weeks in advance of the defense. If the student does not pass the defense, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Plan B (Non-Thesis)

The student must complete a minimum of 33 hours of courses, including the CORE and BREADTH REQUIREMENTS. At least 22 credit hours must be COSC courses. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 6 hours of 4000-level courses, may be included with the approval of the supervising M.S. committee.

UW Coursework Requirements for M.S. Transfer Students:

M.S. transfer students must complete at least 21 credit hours at the University of Wyoming. At least 12 credits of the CORE & BREADTH REQUIREMENTS must be taken at the University of Wyoming. No more than one class per category of breadth may be counted towards this 12-credit total. The algorithms course credits may be counted toward this 12-credit total.

Computer Science Breadth Requirements

Students must earn a grade of B or better in one class from the Theory category, one class from the Artificial Intelligence category, and two classes from the Systems category. Thus there must be 12 credits taken to satisfy the breadth requirement. A list of courses in each category is available from the department. Although some courses may be listed under multiple categories, a course may only count once towards the breadth requirement.

Computer Science Core Requirements

COSC5110 - Analysis Of Algorithms must be completed with a grade of B or better. A grade of B- is not sufficient. Students are strongly encouraged to take COSC 5110 the first time it is offered after enrollment.

Summary of Credit Requirements

Plan A

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits: 12
- Additional courses Credits: 12

- COSC 5960 - Thesis Research Credits: 1-12

OR

- COSC 5980 - Dissertation Research Credits: 1-12

Total Credits: 31 Hours

Plan B

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits: 12
- Additional courses Credits: 18

Total Credits: 33 Hours

Computer Science Quickstart B.S./M.S.

Enables well-qualified students to be admitted to the M.S. program during

the junior year of their B.S. program, and to work thereafter towards both

the B.S. and M.S. degrees in COSC.

Degree Requirements

Up to 6 credit hours from UW, at the 5000-level or above, may be

counted toward both the B.S. and M.S. degree programs.

Computer Science, Ph.D.

Prepares students to advance computing principles and practice. Specialties in AI, Complexity & Information Theory, Human-Computer Interaction, Cybersecurity, Machine learning, Computer Vision, and Distributed Computing.

Program Information

Each doctoral student will have a supervising committee of at least five members appointed. The primary functions of this committee are to suggest coursework, to administer the qualifying, preliminary, and final examinations, and to oversee and evaluate the research of the candidate. The committee will consist of at least three members of the computer science department faculty and at least one non-COSC faculty member. The standards that this committee should consider when recommending programs of study are outlined in the following sections.

Coursework Requirements:

A total of at least 72 credit hours must be completed. A minimum of 42 of these credit hours must be taken as coursework, including the CORE and BREADTH REQUIREMENTS. A minimum of 12 hours of COSC5980 - Dissertation Research must be taken. All COSC courses must be at the 5000 level. Courses from other departments, including no more than 12 hours of 4000-level courses, may be included with the approval of the supervising Ph.D. committee. All course requirements MUST be completed or enrolled with satisfactory midterm progress prior to scheduling the Ph.D. Final Examination.

UW Coursework Requirements for Ph.D. Transfer Students:

Ph.D. transfer students must complete at least 24 credit hours at the University of Wyoming. At least 12 credits of the CORE and BREADTH REQUIREMENTS must be taken at the University of Wyoming. No more than one class per category of breadth may be counted towards this 12-credit total. The algorithms course credits may be counted toward this 12-credit total.

Program:

A program of original and innovative research will be undertaken by the candidate. At the end of this program, the candidate will document this research in a dissertation. The dissertation will present the details and results of the candidate's research in addition to providing a critical comparison with relevant previously-published works.

Each successful doctoral student must pass three examinations. These include a qualifying examination, a preliminary examination, and a final (dissertation) defense.

Qualifying Exam Criteria:

The student must complete the CORE REQUIREMENT and pass a closed oral examination on a research area administered by the supervising committee. Although closed to the public, faculty members of the Department of Computer Science are welcome to attend. The exam must be announced to the faculty at least two weeks in advance. The research area will be chosen in consultation with the committee. The student must demonstrate background knowledge of the state of the art in the area

and preliminary work. This will involve, but is not limited to, presenting material and answering questions covering the relevant area knowledge. The format of the exam will be defined by the committee prior to the exam to allow for sufficient preparation. This examination is intended to motivate the candidate to review relevant literature extensively prior to pursuing the original and innovative portions of the research. Qualifying exam criteria must be completed within the first two years of enrollment in the Ph.D program. If the student does not pass the qualifying exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass. The closed oral examination requirement may be waived for a student who has completed an M.S. degree in COSC at UW if their M.S. presentation was at a research level that demonstrated background knowledge of the state of the art in the area, at the discretion of the supervising Ph.D. committee.

Preliminary Exam Criteria:

Prior to scheduling the Preliminary Examination, the student must be making satisfactory progress towards completion of their course requirements, including the BREADTH REQUIREMENTS. A Preliminary Examination will consist of a presentation and defense of the alreadycompleted portion of the dissertation research and the research that is proposed to complete the dissertation. The Preliminary Examination must be open and announced at least two weeks in advance. The preliminary examination must be completed within two years of enrollment in the Ph.D program (within three years of enrollment for students who do not have an M.S. degree). This examination is intended to motivate the candidate to make significant progress on work towards their Ph.D. dissertation and propose milestones for completion. If the nature of the proposed continued research and methodology is deemed to be sufficiently original and innovative by the supervising committee, then the committee will approve the research direction after

having administered this examination. If the student does not pass the preliminary exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Option for M.S. degree en route to Ph.D.:

After completing the Qualifying Exam and Preliminary Exam, a Ph.D. student may additionally earn an M.S. degree after completing the remaining M.S. course requirements, including the BREADTH REQUIREMENTS. COSC 5980 may be substituted for COSC 5960 in the M.S. requirements at the discretion of the supervising committee. The M.S. degree will be granted only after completion of the preliminary exam. For an M.S. degree to be granted prior to completion of the preliminary exam, the student should enroll in the M.S. degree program and complete the remaining M.S. requirements.

Final Exam Criteria:

Prior to scheduling the Ph.D. Final Examination (often referred to as a "defense"), all course requirements, including the BREADTH REQUIREMENTS, MUST be completed or enrolled with satisfactory midterm progress. The Final Examination (dissertation defense) will consist of an oral presentation by the candidate of his/her research and the results that were derived. At this examination, the candidate is expected to defend the research as being original and contributory to the discipline of computer science. The Final Examination must be open and announced at least two weeks in advance. The dissertation must be distributed to the supervising committee at least two weeks in advance of the Final Examination. If the student does not pass the final exam, the committee will instruct the student as to what needs to be accomplished (and by when) to pass.

Time to degree for part-time students:

Exceptions to the completion deadlines for the Qualifying Exam and Preliminary Exam may be made for part-time students at the discretion of the supervising committee.

Computer Science Core Requirements

COSC5110 - Analysis Of Algorithms must be completed with a grade of B or better. A grade of B- is not sufficient. Students are strongly encouraged to take COSC 5110 the first time it is offered after enrollment.

Computer Science Breadth Requirements

Students must earn a grade of B or better in one class from the Theory category, one class from the Artificial Intelligence category, and two classes from the Systems category. A grade of B- is not sufficient. Thus there must be 12 credits taken to satisfy the breadth requirement. A list of courses in each category is available from the Department. Although some courses may be listed under multiple categories, a course may only count once towards the breadth requirement.

Program Specific Degree Requirements

Summary of Credit Requirements

- COSC 5110 - Analysis Of Algorithms Credits: 3
- Breadth: theory course, AI course, two systems courses Credits:12
- Additional courses Credits: 27

- COSC 5960 - Thesis Research Credits: 1-12

OR

- COSC 5980 - Dissertation Research Credits: 1-12

- Other credits (may include courses or COSC 5960/COSC 5980) Credits: 18

Total Credits: 72 Hours

Electrical Engineering, M.S.

Designed to teach cutting-edge skills needed to excel, whether students enter the workforce or continue onto a PhD. Foci include: Computer Vision, Controls, Elec. Energy Systems, IoT, AI, and Robotics and Signal Processing.

Plan A (Thesis)

This is a minimum 30 credit hour program, 26 hours coursework and 4 hours of thesis

- Minimum 16 Course Hours in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hours in Formal Course Work outside the Electrical and Computer Engineering Department approved by the student's committee
- 7 Additional Formal Course Hours in or out of the Electrical and Computer Engineering Department
- 4 credits of MS thesis research
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Of the above credit hours in formal coursework, no more than 12 credit hours can be 4000 level

The candidate must meet the minimum requirements for the Master of Science degree and also complete and defend a master's thesis.

Plan B (with Paper)

This is a 30 hour program:

- Minimum 18 Course Hrs in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hrs in Formal Course Work outside the Electrical and Computer Engineering Department
- 9 Additional Formal Course Hrs in or out of the Electrical and Computer Engineering Department
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Plan B (Coursework Only)

This is a 30 hour program:

- Minimum 18 Course Hrs in Electrical and Computer Engineering Course Work
- Minimum 3 Course Hrs in Formal Course Work outside the Electrical and Computer Engineering Department
- 9 Additional Formal Course Hrs in or out of the Electrical and Computer Engineering Department
- No more than 12 credit hours can be at the 4000 level
- No more than 3 credit hours of independent study

Of the above credit hours in formal coursework, no more than 12 can be 4000 level.

Electrical Engineering, Ph.D.

Trains students to conduct research on innovative topics using cutting-edge tools and resources. Areas of foci include: Computer Vision, Controls, Electrical

Energy Systems, IoT, AI, and Robotics and Signal Processing.

Degree Requirements

Ph.D. Degree Requirements:

Ph.D. Credit Allocation (all at 4000 level minimum)

- 72 hours (minimum) of acceptable graduate coursework
- 42 hours (minimum) from ECE and closely related formal course work (EE 5980 - Dissertation Research not counting toward this minimum)

Of those 42 hours, no more than 12 hours can be at the 4000 level

Courses required by the department bachelor of science degree may not be applied for graduate credit

- 6 hours (maximum) of EE 4800 - Problems in _____ can be counted for program of study credit
- 6 hours (maximum) of EE 5880 - Problems in ... can be counted for program of study credit
- 9 hours (maximum) of EE 5600 - Statistical Signal Processing in: can be counted for program of study credit.

In addition to the minimum requirements of the university, doctoral students must pass a written and oral comprehensive examination, part of which is a written proposal explaining their planned dissertation research. The student after completing successfully the oral comprehensive examination and before defending the completed dissertation must present their research work at an ECE department seminar. The student must also present and defend a completed dissertation. Programs of study, including coursework and any research tools, are arranged by consultation between the students and their graduate committee.

Energy and Petroleum Engineering, M.E.

The program, with an initial four specialization options in energy-related disciplines (Energy, Advanced Drilling, Data Analytics, Blockchain) is a direct response to the high demand of the Energy and Petroleum industry worldwide to employ graduates with these skills.

Curriculum Map and Program Structure

- Students enrolled in the MEng program will need to complete 30 credits (typically, 10 courses of 3 credits each) to graduate.
- Students with a bachelor's degree in petroleum engineering shall select a minimum of five (5) specialized courses from a list of core courses under each discipline and the remaining courses can be taken as technical electives in the department or from other programs across campus. Students with other engineering or related science backgrounds will be required to take five (5) graduate courses in Petroleum Engineering as electives in addition to the five (5) core courses in their specialized area.
- In some cases, and, if one without a prior degree in petroleum engineering, provides adequate evidence of past training or industry experience in the petroleum industry, the number of petroleum engineering electives may be reduced to allow for more courses in the specialized discipline.

Core Courses in Energy Engineering

This list is the general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5050 - Life Cycle Analysis Credits: 3
- PETE 5860 - Energy, Environment, and Materials Credits: 3
- PETE 5020 - Thermodynamics Credits: 3

- EPE 5010 - Subsurface Energy Storage Credits: 3 3
- EPE 5020 - Petroleum and Geothermal Engineering Credits: 3 3
- EPE 5030 - Exergy Credits: 3 3
- EPE 5040 - Energy Economics Credits: 3
- EPE 5050 - Life Cycle Analysis Credits: 3 3
- EPE 5860 - Energy, Environment, and Materials Credits: 3 3

Core Courses in Advanced Drilling Engineering

This is the general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5255 - Advanced Drilling Engineering Credits: 3
- PETE 5215 - Electronics I Laboratory Credits: 3
- EPE 5210 - Advanced Well Control Credits: 3 3
- EPE 5220 - Drilling Problems and Solutions Credits: 3 3
- EPE 5230 - Managed Pressure Drilling Credits: 3 3
- EPE 5255 - Advanced Drilling Engineering Credits: 3

Core Courses in Data Analytics

This is the list and general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- PETE 5150 - Topics in Petroleum Engineering Credits: 1-3
- EPE 5110 - Energy Data Analysis using Python Credits: 3 3
- EPE 5120 - Visual Analytics for the Energy Industry Credits: 3 3
- EPE 5130 - Data Analytics Applications in the Energy Industry Credits: 3

- EPE 5140 - Temporal Analytics for the Energy Industry Credits: 3
- EPE 5150 - Project Management in Energy Analytics Credits: 3 3
- EPE 5160 - Graph Modeling for Energy Industry Credits: 3 3
- EPE 5170 - Text Analytics for Energy Solution Credits: 3

Core Courses in Blockchain Technology

This is the list and general order of core courses that the students are recommended to take, based on their specialized discipline. Each course listed is 3 credits.

- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- BKCH 4021 - Business Applications of Blockchain Credits: 3
- BKCH 4121 - Case Studies in Block Chain Credits: 3
- PETE 4820 - Blockchain in Energy Credits: 3
- EPE 5310 - Applied Blockchain for Oil and Gas Credits: 3

Elective Courses

Students can take electives from all the specialization areas of MEng, PETE courses, or the following list of approved courses across campus. Each course is 3 credits. Other electives may be selected with advisor approval.

- COSC 5010 - Graduate Topics in Computer Science Credits: 1-6
- ESE 4460 - Solar and Geothermal Engineering Credits: 3
- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 5474 - Energy Methods Credits: 3
- ME 5475 - Topics in Mechanical Engineering II Credits: 1-6
- CE 5430 - Environmental Engineering Chem Credits: 3
- CE 5470 - Water for Energy Credits: 3

- CE 5700 - Civil Engineering Problems I Credits: 1-3 (Carbon Capture and Storage: Section 3)
- CE 5810 - Groundwater Hydrology Credits: 3
- CE 5870 - Water Resource Engineering Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3
- GEOL 5250 - Mathematical Geosciences Credits: 3
- GEOL 5470 - Fire Ecology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3
- GEOL 5835 - Applied/Exploration Geophysics Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- ECON 4410 - Natural Resource Economics Credits: 3
- ECON 4430 - Energy Economics Credits: 3
- ECON 5400 - Advanced Resource and Environmental Economics Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ENR 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3
- ENR 5050 - Techniques in Environmental Data Management Credits: 4
- ENR 5150 - Environmental Science: Perspectives and Methods Credits: 3
- ENR 5500 - Risk Analysis Credits: 4
- ENR 5750 - ENR Law and Policy Credits: 3
- MGT 5504 - Energy Industry Value Chain Credits: 3
- MBAM 5506 - Energy Finance: Securities, Hedging, and Trading Credits: 3
- MBAM 5501 - Energy Economics and Policy Credits: 3
- EPE 5090 Energy Research Method
- EPE 5890 Energy Technology Seminar

Engineering and Applied Science, MBA/MS Dual Degree

Students who hold both an MBA and an MS in Engineering set themselves apart when entering the competitive marketplace. As leaders, not only do they speak the technical lingo, they also understand the overall strategy and operational goals.

MS/MBA Dual Degree Requirements

The MS/MBA is typically a non-thesis option. An additional 21 credits in engineering, science or mathematics must be earned beyond the BS degree. At least 15 credits of graduate course work must be at the 5000-level from the respective EAS graduate program.

MBA Courses

All students pursuing a dual degree program with the College of Engineering and Applied Science and the College of Business must meet the admission requirements for both programs in order to be considered for the dual degree program. If admitted to both programs, students will complete the following requirements:

Any 9 credit hours of the following required MBA core courses can be counted towards the MS/MBA degree.

- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3

- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3
- MBAM 5305 - Strategic Management Credits: 3

Program Specific Requirements

Please review the specific program requirements for each program within the dual degree agreement.

- Business Administration, M.B.A.
- Mechanical Engineering, M.S.
- Petroleum Engineering, M.S.

Thesis Option

For a thesis option, students will only count one MBAM course from the above list and are required to complete 4 credits of ME 5960 and 2 credits for ME 5478 similar to the Plan A option.

Environmental Engineering, M.S.

A master of science in environmental engineering is available in the College of Engineering through a joint effort of the Department of Civil and Architectural Engineering and the Department of Chemical Engineering.

Core Courses (9 Hours)

All Environmental Engineering M.S. students must take the following Core courses (9 hrs):

- ENVE 5425 - Environmental Engineering Microbiology
- ENVE 5430 - Environmental Engineering Chemistry Credits: 3
- CE 5435 - Environmental Transport Processes Credits: 3

Recommended Courses (3 Hours)

Students should also take at least one of the following Recommended courses (3 hrs):

- ENVE 5410 - Advanced Biological Wastewater Treatment Credits: 3
- ENVE 5450 - Advanced Physical Chemical Treatment Credits: 3

Approved Elective Coursework

Plan A (Thesis) students complete another 14 hours of Approved Elective coursework, at least 4 hours of ENVE 5960 - Thesis Research, and write and defend their thesis. Plan B (Project) students complete another 18 hours of Approved Elective coursework and write and present their project.

Total Required Credit Hours: 30 (Minimum)

Geology, M.S.

Plan A (Thesis)

(26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 - Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two

semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Geology, Ph.D.

(42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 - Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support,

irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Geophysics, M.S.

Plan A (Thesis)

(26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 - Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to

complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Geophysics, Ph.D.

(42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two

semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 - Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this

Catalog. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Geospatial Information Science and Technology, Professional M.S.

The Professional Master's in Geospatial Information Science and Technology (GIST) provides working professionals or distance students the opportunity to develop and improve their geospatial knowledge and skills. Core courses cover GIS basics, geospatial programming, data visualization, enterprise systems, web GIS, and spatial modeling, while electives provide the chance to explore specific areas of interest. The Professional Master of Science Degree is delivered online and does not require a thesis.

Coursework

Core Requirements: 24 credits

Complete all core courses; (GIST 5002 must be taken twice).

- GIST 5002 - Geospatial Forum Credits: 1
  must be taken twice with second occurence in the same semester as GIST5780. **Credits / Units:** 1
- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5200 - Geographic Visualization Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

- GIST 5280 - Navigating GIST Professions Credits: 1
- GIST 5300 - Web Mapping and Internet GIS Credits: 3
- GIST 5350 - Enterprise GIS Credits: 3
- GIST 5780 - GIS&T Capstone Credits: 3

Electives: 9 credits

Complete 9 credits of electives from GIST or interdisciplinary GIST-related courses (5000 or above) as approved by advisor.

Total Credits: 33

Geospatial Information Science and Technology, Research (Thesis) M.S.

The Research Master of Science in Geospatial Information Science and Technology gives students the opportunity to develop geospatial research and applied skills. Students complete core geospatial courses and a collaborate with a faculty advisor to complete a research thesis. This degree is delivered on the UW campus with options for online courses.

Coursework

Core Requirements: 13 credits

Complete all courses

- GIST 5002 - Geospatial Forum Credits: 1
- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5200 - Geographic Visualization Credits: 3

- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

Electives: 15 credits

Students are required to take 15 credits of GIST or GIST-related elective courses (5000 or above) as approved by their faculty advisor and graduate research committee.

Research Requirement

Students are required to complete a minimum of 4 credits of thesis research (GIST5960). Students must also work with a faculty advisor and graduate research committee to conduct, complete, and defend a geospatial thesis project.

- GIST 5960 - GIST Thesis Research Credits: 1-12

Total Credits: 32 minimum

Mathematics, M.A.

A comprehensive mathematics degree, with training in the fundamentals of analysis, abstract algebra, computation, and mathematical modeling. Provides a strong foundation for teaching, work in industry, and continued study in graduate-level programs.

Common Requirements

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division

undergraduate level and is offered before the beginning of each semester.

- Take one hour of the seminar MATH 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970: Professional Development in Teaching.

5000-level Mathematics Courses

As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3
- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Tracks:

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960 - Thesis Research. At least 26 hours of 5000-level coursework must be mathcontent courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty

member. The thesis should describe the research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.
- Pass one of the department's qualifying exams in:

Analysis

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

Algebra

- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Applied Mathematics

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3

Mathematics, M.A.T.

Applicants are required to have:

- A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;
- courses equivalent to MATH 3205, MATH 3500, MATH 4000 and MATH 4600;
- a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Mathematics, M.S.

A comprehensive mathematics degree, with training in the fundamentals of analysis, abstract algebra, computation, and mathematical modeling. Provides a strong foundation for teaching, work in industry, and continued study in graduate-level programs.

Common Requirements

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division undergraduate level and is offered before the beginning of each semester.
- Take one hour of the seminar MATH 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970: Professional Development in Teaching.

5000-level Mathematics Courses

As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3
- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Tracks:

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960 - Thesis Research. At least 26 hours of 5000-level coursework must be mathcontent courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty member. The thesis should describe the research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.
- Pass one of the department's qualifying exams in:

Analysis

- MATH 5200 - Real Variables I Credits: 3
- MATH 5230 - Complex Variables I Credits: 3

Algebra

- MATH 5500 - Advanced Linear Algebra Credits: 3
- MATH 5550 - Abstract Algebra I Credits: 3

Applied Mathematics

- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3
- MATH 5400 - Methods of Applied Mathematics I Credits: 3

Mathematics, M.S.T.

Applicants are required to have:

- A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;

- courses equivalent to MATH 3205, MATH 3500, MATH 4000 and MATH 4600;
- a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Mathematics, Ph.D.

A rigorous PhD program in mathematics, culminating in an original research project. Math PhDs have excellent career prospects in a variety of settings, including academia, industry, research, engineering, economics and government.

Mathematics PhD Information

The student must maintain a 3.0 cumulative GPA.

The student must teach two semesters of college mathematics.

The student must complete a combination of 72 hours of coursework and dissertation research. Within the 72 hours, a maximum of 12 hours can be at the 4000 level, and 42 hours must be formal courses at the 5000 level. The courses must be mathematics courses or courses with significant mathematical content, as approved by the department's graduate committee.

The Student Must Complete

Within the 42 hours of 5000-level courses, the student must:

- Complete the courses distributed in three areas: algebra, analysis, and applied mathematics. The student must take at least two courses in each of two categories and at least one course from the third category. The

department maintains a list of course categories.

- MATH 5200 - Real Variables I Credits: 3 with a grade of B or better
- MATH 5230 - Complex Variables I Credits: 3 with a grade of B or better
- MATH 5310 - Computational Methods in Applied Sciences I Credits: 3 with a grade of B or better
- MATH 5400 - Methods of Applied Mathematics I Credits: 3 with a grade of B or better
- MATH 5500 - Advanced Linear Algebra Credits: 3 with a grade of B or better
- MATH 5550 - Abstract Algebra I Credits: 3 with a grade of B or better

Take Two Hours of

- MATH 5800 - Seminar in Mathematics Credits: 1-3 -02, and Colloquia

In Addition

In addition, the student must:

- Pass the foundation exam, the qualifying exam in the student's research area, and the preliminary exam.
- Write a dissertation containing the student's original mathematical results and present an oral defense of the research.
- Take one hour of the seminar 4970: Professional Development in Mathematics and one hour of the seminar MATH 4970 - Professional Development in Teaching.

Mechanical Engineering, M.S.

The UW Mechanical Engineering MS program offers two options: thesis (Plan A) or non-thesis (Plan B). Both tracks offer opportunities to take graduate coursework in topics of thermal fluids, materials, experimentation, computational tools, and more.

Program Specific Degree Requirements

Plan A (Thesis)

A thesis project is chosen in consultation with an ME faculty member and constitutes 4 credit hours of ME 5960 in the 30-hour Plan A program. ME 5478 (Seminar) is to be taken during the final semester when the thesis is presented and defended and constitutes 2 credit hours of the 30-hour Plan A program. Classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken
- Thesis research (ME 5960 or ME 5980): 4 credit hours
- Seminar (ME 5478): 2 credit hours
- ME 5475 as Independent Study: maximum of 3 credit hours
- Total: minimum of 30 credit hours

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. Up to two courses may be from the fields of business, ENR, or public policy.

Plan B (Non-Thesis)

The Plan B M.S. degree can be completed by earning a minimum of 30 credits beyond the baccalaureate degree. Classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken
- ME 5475 as Independent Study: maximum of 3 credit hours
- Total: minimum of 30 credit hours

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. Research credits earned through ME 5960 as part of

an unfinished M.S. Plan A program may not be counted.

MS-ME/MBA Dual Program

The UW Mechanical Engineering MS/MBA program offers the opportunity to pursue MS and MBA degrees simultaneously and reduce course requirements by applying course credit towards both degrees. There are thesis and non-thesis options for the MS degree.

MS-ME/MBA Program Requirements

The MS-ME component is 30 credits beyond the BS level and is typically a non-thesis option. 9 credits from the MBA core curriculum will count towards the 30 credit MS-ME requirements. Of the remaining 21 credits, classes must meet the following constraints:

- ME courses (5000-level): minimum of 15 credits
- ME 5475 as Independent Study: maximum of 3 credit hours
- A maximum of 6 credits at the 4000 level outside of ME may be taken

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines.

MS-ME/MBA Thesis Option

For a thesis option, students will only count 3 credits from the MBA core-curriculum and are required to complete 4 credits of ME 5960 and 2 credits for ME 5478 , similar to the Plan A option.

Mechanical Engineering Graduate Level Courses

- ME 5040 - Introduction to Finite Element Analysis Credits: 3

- ME 5045 - Advanced Finite Element Analysis Credits: 3
- ME 5200 - Thermo/Kinetics of Materials Credits: 3
- ME 5432 - Advanced Materials Science Credits: 3
- ME 5434 - Computational Materials Science Credits: 3
- ME 5435 - Failure of Engineering Materials Credits: 3
- ME 5438 - Plasticity and Viscoelasticity Credits: 3
- ME 5440 - Fluid Mechanics Credits: 3
- ME 5442 - Advanced Fluid Mechanics Credits: 3
- ME 5446 - Turbulence Credits: 3
- ME 5448 - Experimental Fluid Dynamics. Credits: 3
- ME 5452 - Convection Heat Transfer Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3
- ME 5472 - Continuum Mechanics Credits: 3
- ME 5478 - Seminar in Mechanical Engineer Credits: 2
- ME 5960 - Thesis Research Credits: 1-12
- ME 5961 - Graduate Projects Credits: 1-4
- ME 5980 - Dissertation Research Credits: 1-12

Mechanical Engineering, Ph.D.

The UW Mechanical Engineering PhD program includes coursework and a substantial research component. Research is performed with an advisor, and a dissertation is produced. Program requirements include Qualifying, Preliminary, and Final Examinations.

Program Requirements

For students of outstanding academic ability and with demonstrated capacity for

undertaking independent research on advanced engineering problems, the Ph.D. program in mechanical engineering is offered. The Ph.D. requires a minimum of 72 graduate hours, at least 42 of which must be earned in formal coursework. A minimum of 24 in-resident coursework hours is required (ME 5980 - Dissertation Research counts towards in-resident coursework). In addition to coursework requirements, graduate students pursuing a Ph.D. in Mechanical Engineering must complete three examinations: Qualifying, Preliminary, and Final.

<u>The 42 credits in formal coursework must meet the following constraints:</u>

- ME courses (5000-level): minimum of 15 hours
- ME 5475 as Independent Study: maximum of 3 credit hours
- A maximum of 9 credits at the 4000 level outside of ME may be taken

Courses outside of ME must be chosen with the approval of the academic adviser. They can be in mathematics, statistics, science, or other engineering disciplines. All graduate students in Mechanical Engineering are expected to follow the graduate education policies of the College of Engineering and Applied Sciences.

Qualifying Exam

In consultation with their advisor, students are allowed to take the Qualifying Exam after declaring pursuit of a Ph.D. degree. Graduate students do not require a M.S. to take the Qualifying Exam. The format is a knowledge-based examination consisting of three subject areas, each with both a written and an oral component. The candidate will be evaluated for each subject area, based on the cumulative performance in both (written and oral) components. Should the student fail a single subject area, at the discretion of the committee, they may repeat the failed portion at the next available opportunity. A third attempt is not permitted. The successful completion of the Qualifying Exam is required before the Preliminary Exam.

Preliminary & Final Exam

The purpose of the Preliminary Exam is to evaluate the aptitude of the Ph.D. candidate to perform research based on preliminary results, and to assess the student's plan for completing the research necessary for the Final Exam. The Preliminary Exam follows university regulations and, at a minimum, consists of a seminar attended by the student's committee members.

The purpose of the Final Exam is to ensure the Ph.D. candidate has sufficient accomplishments to be awarded a Ph.D. The Final Exam consists of an oral defense of the dissertation in accordance with university policy.

Mechanical Engineering Graduate Level Courses

- ME 5045 - Advanced Finite Element Analysis Credits: 3
- ME 5040 - Introduction to Finite Element Analysis Credits: 3
- ME 5200 - Thermo/Kinetics of Materials Credits: 3
- ME 5432 - Advanced Materials Science Credits: 3
- ME 5434 - Computational Materials Science Credits: 3
- ME 5435 - Failure of Engineering Materials Credits: 3
- ME 5438 - Plasticity and Viscoelasticity Credits: 3
- ME 5440 - Fluid Mechanics Credits: 3
- ME 5442 - Advanced Fluid Mechanics Credits: 3
- ME 5446 - Turbulence Credits: 3
- ME 5448 - Experimental Fluid Dynamics. Credits: 3
- ME 5452 - Convection Heat Transfer Credits: 3
- ME 5455 - Combustion Engineering Credits: 3
- ME 5461 - Computational Fluid Dynamics I Credits: 3
- ME 5462 - Computational Fluid Dynamics II Credits: 3

- ME 5472 - Continuum Mechanics Credits: 3
- ME 5474 - Energy Methods Credits: 3
- ME 5478 - Seminar in Mechanical Engineer Credits: 2
- ME 5980 - Dissertation Research Credits: 1-12

Petroleum Engineering, M.S.

Petroleum M.S. Students With a B.S. In Petroleum Engineering

All Petroleum M.S. students with a B.S. in Petroleum Engineering from an accredited program must take the following required courses:

Required Courses

- PETE 5355 - Mathematical Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least three Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3

Total Credits: 14 Hours

Plan A Thesis Additional Course Requirements:

- 4000-level or above approved electives Credits: 12
- PETE 5960 - Thesis Research Credits: 1-12

Total Credits: 30 Hours

Plan B Non-Thesis Additional Course Requirements:

4000-level or above approved electives **Credits / Units:** 14

- PETE 5970 - MS Plan B Research Project Credits: 1-2

Total Credits: 30 Hours

Petroleum M.S. Students With a B.S. In Chemical or Mechanical Engineering

All Petroleum M.S. students with a B.S. in Chemical or Mechanical Engineering from an accredited program must take the following required courses:

Required Courses:

- PETE 5055 - Drilling Engineering Credits: 3
- PETE 5340 - Reservoir Engineering. Credits: 3
- PETE 5715 - Production Engineering Credits: 3

Core Courses

At least five Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3

Total Credits: 26 Hours

Plan A Thesis Additional Course Requirements:

- 4000-level or above approved electives Credits: 7
- GEOL 4190 - Petroleum Geology Credits: 3
- PETE 5960 - Thesis Research Credits: 1-12

Total Credits: 40 Hours

Plan B Non-Thesis Additional Course Requirements:

- PETE 5970 - MS Plan B Research Project Credits: 1-2
- 4000-level or above approved electives Credits: 9
- GEOL 4190 - Petroleum Geology Credits: 3

Total Credits: 40 Hours

Graduate Seminar Requirements

All petroleum engineering PhD students must enroll in PETE 5890 - Petroleum Engineering Graduate Seminar, every semester. All seminars, including the

required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester. MS students are required to take PETE 5890 for at least two semesters.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by a faculty mentor will work with their mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student

must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Petroleum Engineering, Ph.D.

Students with a B.S. in Petroleum Engineering

All Petroleum Ph.D. students with a B.S. in Petroleum Engineering must take the following required courses:

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least three Core Courses from the following:

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3

Electives

- 4000-level or above approved electives Credits: 21

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72

Students with an M.S. in Petroleum Engineering

All Petroleum Ph.D. students with an M.S. in Petroleum Engineering from UW must take the following required courses:

Plan A MS Courses Credits: 26

See Petroleum Engineering, M.S. program

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3

- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72

Students with an M.S. in Petroleum Engineering

All Petroleum Ph.D. students with an M.S. in Petroleum Engineering from another institution must take the following required courses:

Transferred MS Courses Approved by Student's Committee Credits: 14

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least four Core Courses from the following:*

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3

- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 72 Hours

*Some or all of these credit hours can be transferred by petition, provided they are non-degree credits.

Students with an M.S. Degree in a Geoscience

All Petroleum Ph.D. students with an M.S. degree in a geoscience from another accredited institution must take the following required courses:

Transferred MS Courses Approved by Student's Committee Credits: 12

Required Courses

- PETE 5090 - Graduate Research Methods Credits: 3
- PETE 5890 - Petroleum Engineering Graduate Seminar Credits: 1

Core Courses

At least six Core Courses from the following:*

- PETE 5010 - Transport Phenomena Credits: 3
- PETE 5020 - Thermodynamics Credits: 3
- PETE 5060 - Flow through Porous Media Credits: 3
- PETE 5080 - Interfacial Phenomena Credits: 3
- PETE 5310 - Fundamentals of EOR Credits: 3
- PETE 5350 - Advanced Reservoir Engineering Credits: 3
- PETE 5355 - Mathematical Methods Credits: 3

At Least Eight Additional Courses:

- Six (6) credits in advanced mathematics
- 18 credits in petroleum engineering

Petroleum Engineering Credits Include:

- PETE 5055 - Drilling Engineering Credits: 3
- PETE 5340 - Reservoir Engineering. Credits: 3
- PETE 5715 - Production Engineering Credits: 3

Electives

- 4000-level or above approved electives Credits: 9

Research

- PETE 5980 - Dissertation Research Credits: 1-12

Total Credits: 100 Hours

*Some or all of these credit hours can be transferred by petition, provided they are non-degree credits.

Graduate Seminar Requirements

All petroleum engineering graduate students must enroll in PETE 5890 - Petroleum Engineering Graduate Seminar, every semester. All seminars, including the required presentations described below, must be scheduled by the seminar coordinator. Graduate students enrolled in continuous registration are exempt from having to enroll in PETE 5890 in their final semester.

Graduate Teaching Requirement

All Petroleum Engineering graduate students must complete at least one semester as a teaching assistant within the Petroleum Engineering curriculum. Students receiving a state-funded graduate assistantship will be required to serve as a teaching assistant every semester of their award. Students funded by a faculty mentor will work with their mentor to determine an appropriate time to complete this requirement.

Program of Study Requirement

All Petroleum Engineering graduate students must complete their Program of Study worksheet at the beginning of their second academic year of study or 3rd semester of enrollment, and PhD students must submit it prior to their preliminary examination.

Ph.D. Preliminary Examination

Candidacy in the doctorate occurs upon certification of successful completion of the preliminary examination. The preliminary examination will be held at least 15 weeks prior to the final examination. The preliminary examination may not be given before: (a) the research tool requirements, if

any, have been met and certification approved; (b) at least 30 hours of coursework have been completed; and (c) the doctoral program of study has been approved.

The goal of the preliminary exam is for the student to present the research proposition that is being investigated and will lead to the final dissertation, and demonstrate progress to-date. The preliminary exam consists of three components:

- a written document provided to each member of the student's graduate committee at least three weeks prior to the oral presentation;
- a public oral presentation; and
- a private examination by the student's graduate committee immediately following the oral presentation.

The written document may be in any format but must concisely provide a survey of the relevant literature, a summary of the student's progress to-date, and a clear, detailed plan for the successful completion of the proposed work. The preliminary exam oral presentation should be consistent with the written document. It should provide an appropriate literature background, demonstrate proficiency with proposed experimental/computational techniques, identify details of the experiments to be performed, and provide a timeline to final defense.

The student's committee will pass or fail the student on the strength of the preliminary examination, with an option to conditionally pass the student while requiring an interim committee meeting prior to the final Ph.D. examination. The Report on Preliminary Examination for Admission to Candidacy form sent to the Office of the Registrar reports the results of the examination.

M.S. and Ph.D. Final Examination (Thesis or Dissertation Defense)

All M.S. and Ph.D. students must orally defend their final report, thesis, or

dissertation at a public final examination. If, for any reason, a student's Ph.D. research goals are substantially changed after successful completion of the preliminary examination, the student must arrange a subsequent meeting to provide their committee with an accurate and current overview of their proposed work. The final examination consists of a public defense in oral presentation format. At least three weeks before the examination, the student must provide each member of the graduate committee with a copy of the written thesis or dissertation and provide the department an announcement of their defense for public advertisement. The results of the defense are reported by the committee on the Report of Final Examination form. Often, graduate committee members request changes in the final thesis or dissertation, and they may postpone signing this form until they are satisfied that those changes have been made.

Publication of Thesis or Dissertation

After the defense, an electronic copy (in PDF format) of the thesis or dissertation must be uploaded in accordance with the directions provided on the Registrar's web site. This copy will be rejected if the format standards specified by the Thesis or Dissertation Format Guide are not met. This guide allows for a publication-ready format. An electronic copy must also be submitted to the department for the departmental library. Most students will want copies for their own use. Students should consult with their chair to determine if they also want a copy of the final paper or other research documentation.

Physics, M.S.

Thesis planning, development, and production guided by the committee chair and graduate committee.

The University of Wyoming Master of Science in Physics program prepares

students for a wide range of exciting physics-related careers

Requirements

Plan A (Thesis)

- 26 hours of graduate coursework, 20 of which must be in PHYS/ASTR at the 5000-level
- 4 hours of PHYS 5960

Plan B (Non-Thesis)

- 30 hours of graduate coursework, 24 of which must be in PHYS/ASTR at the 5000-level

Physics, M.S.T.

The Master of Science in Teaching is designed for graduate students preparing to teach in secondary schools or in community colleges. It includes a small, carefully designed component in psychology and education as well as a supervised teaching experience. This program will require a thesis project based on experience in the classroom.

Thesis planning, development, and production guided by the committee chair and graduate committee.

Requirements

Plan A (Thesis)

- 18 hours from PHYS/ASTR at the 5000-level
- 12 hours from PSYC or the College of Education at the 4000- or 5000-level

Additional Requirements

The Master of Science in Physics with emphasis in Teaching is designed for graduate students preparing to teach in

private secondary schools or in community colleges. It includes a small, carefully designed component in psychology and education, and includes experience as a teaching assistant. Students interested in this program should contact the current advisor, Prof. Tim Slater.

Physics, Ph.D.

During the first two years, students normally take physics and astronomy courses while working with faculty members on one or more research projects. Course work consists of several required courses plus a number of elective courses. Students participate in weekly research seminars and journal clubs to learn about a broad range of current research. By the third year, Ph.D. students begin research work in the area of their dissertation.

Ph.D. candidates demonstrate their competency in basic undergraduate physics and in required graduate courses through a written examination. After passing the written exam, students will take an oral preliminary exam based on a research project they have completed during the first two years. At the completion of the Ph.D. dissertation, a candidate makes a public presentation of his or her work and the committee conducts a final examination to award the degree.

Requirements

- 42 hours of graduate coursework
- 30 hours of PHYS 5980 or PHYS 5860.

Dissertation planning, development, and production guided by the committee chair and graduate committee.

Tracks:

- Physics, Physics Track, Ph.D.
- Physics, Astronomy Track, Ph.D.

Additional Requirements

The Physics PhD program educates students to become scholars and researchers in physics. Our graduates are trained to teach and to carry out original research that is theoretical, experimental, computational, or a blend of these approaches.

Quantum Information Science & Engineering, M.S.

The Master of Science in QISE program consists of two years of coursework, thesis research, research projects, and practical applications of QISE. The program will offer both Plan A and Plan B degrees, comprising 30 required credits.

Curriculum Map and Program Structure

The MS in QISE is a critical component of the EECS department's goal of developing a research program that is nationally and internationally competitive and relevant to Wyoming by focusing on a few specific areas that have significant anticipated funding growth and economically disruptive technologies. Those areas are (a) modern power grid data analysis and modeling, (b) Quantum machine learning, (c) Quantum security and Internet, and (d) Quantum financing.

The MS in QISE is also central to the aims of the School of Computing and Physics department to provide University of Wyoming students, faculty and staff, and Wyoming businesses and citizens with the quantum computational tools, skills, and approaches to drive transformation and innovation in the state.

Year 1 Fall

- Quantum Mechanics for Non-Physicists* - Being developed for a Minor in QISE, Physics Dept

- EE 5885 - Introduction to Quantum Computing, Offered in Fall 2021, Fall 2022, and Spring 2024.
- Elective* Spring • Quantum Information Theory*
- Quantum Algorithms and Applications* •
- Elective - EE5885 - Quantum Optimization and Machine Learning* - To be offered in Fall 2024

Year 2 Fall

- Quantum Hardware and Technology*
- Research Methods*
- Elective* 130 Spring
- EE 5960 Thesis Research: Credits: 4; Designed for students involved in research for their thesis project. It is also used for students whose coursework is complete and who are writing their thesis.

* New Courses to be developed or under development

Statistics Graduate Minor

A graduate minor in statistics can be a great way to signal your interest and skill in data analysis as it relates to your field of study.

Requirements

Twelve hours of STAT courses at the 5XXX-level:

- STAT 5005 - Data Wrangling Credits:
- STAT 5015 - Regression Analysis Credits: 3
- STAT 5025 - Design and Analysis of Experiments I Credits: 3
- STAT 5045 - Categorical Data Analysis Credits: 3
- STAT 5115 - Time Series Analysis and Forecasting Credits: 3
- STAT 5155 - Fundamentals of Sampling Credits: 3
- STAT 5210 - Advanced Regression Credits: 3
- STAT 5220 - Advanced Design Credits: 3

- STAT 5230 - Statistic Methods III Credits: 4
- STAT 5240 - Data Mining Credits: 3
- STAT 5255 - Mathematical Theory of Probability Credits: 3
- STAT 5265 - Introduction to the Theory of Statistics Credits: 3
- STAT 5270 - Applied Bayesian Statistics Credits: 3
- STAT 5280 - Models for Hierarchical Data Credits: 3
- STAT 5300 - Applied Multivariate Analysis Credits: 3
- STAT 5350 - Survey Construction and Analysis Credits: 3
- STAT 5360 - Spatial Statistics Credits: 3
- STAT 5370 - Survival Analysis Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- STAT 5490 - Statistical Consulting Credits: 1
- STAT 5510 - Distribution Theory Credits: 4
- STAT 5520 - Inference I Credits: 4
- STAT 5530 - Inference II Credits: 3
- STAT 5540 - Large Sample Theory Credits: 3
- STAT 5615 - Time Series Analysis II Credits: 3
- STAT 5620 - Theory of Linear Models Credits: 3
- STAT 5630 - Multivariate Analysis Credits: 3
- STAT 5650 - Theory of Sampling Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3
- STAT 5670 - Mixed Models Credits: 3
- STAT 5680 - Advanced Bayesian Statistics Credits: 3

Statistics, M.S.

Profile

The Master's Program in Applied Statistics will give the student an extensive and broad

background in statistical methods, data analysis, and written and oral presentation skills. This degree is a terminal experience in graduate statistical education and should not be viewed as preparatory for entrance into a Ph.D. program in statistics. Graduates will have the necessary background to work as data management specialists, statistical analysts, and as project managers within a wide range of research organizations.

Plan B (Option 1)

Coursework

In addition to the general requirements of the university all candidates for the MS (Plan B - Option 1) degree must successfully take and complete:

Required: 15 Credit Hours

- STAT 5210 - Advanced Regression Credits: 3
- STAT 5220 - Advanced Design Credits: 3
- STAT 5470 - Data Analysis Credits: 3
- STAT 5380 - Bayesian Data Analysis Credits: 3
- STAT 5660 - Computationally Intensive Methods in Statistics Credits: 3

Electives

a minimum of 15 credit hours in other acceptable graduate courses. Acceptable courses include statistics courses numbered 5000 or higher, **EXCEPTING**:

- STAT 5050 - Statistical Methods for the Biological Science Credits: 3
- STAT 5070 - Statistical Methods for the Social Sciences Credits: 3
- STAT 5080 - Statistical Methods for the Agricultural and Natural Resource Sciences Credits: 3
- STAT 5185 - Analysis of Data Credits: 3

Total Credits: 30 Hours

Graduation Requirements: (1) successful completion of coursework and (2) a data analysis project (Plan B paper).

Certificate

Cadastral Surveying Certificate

The 100% online program is designed for working professionals to serve those seeking or exploring meeting education requirements for licensure. Concepts include surveying, legal, mapping, real property, ethics, boundary. This certificate requires 30 credits.

Program Information

- Students must be properly admitted as Cadastral Surveying Certificate students through the University of Wyoming Admissions Office to be eligible for this Certficate.
- This certificate requires a minimum of 30 semester hours as listed below.
- All transfer credit is subject to review by the UW Land Surveying Director.
- A grade of C or better must be earned in each course.
- The Certificate meets the Wyoming Board of Professional Engineers and Land Surveying licensing requirements for the surveying specific course work required to apply to be a Land Surveyor in Training (LSIT).
- Students earning the Cadastral Surveying Certificate are NOT eligible for Federal Financial Aid. Students may utilize private student loan programs available through the Student Financial Aid Office.
- VA Education Benefits & VocRehab are applicable to the Cadastral Surveying Certificate.
- The UW Cadastral Surveying program is not ABET Accredited.

- Students should have a working knowledge of algebra and trigonometry, and some experience with spreadsheets prior to beginning in this program.
- AutoCAD Civil 3D is recommended.
- Certificate may be paired with an AS in Surveying Technology or a BS in Organizational Leadership. Contact LS Director for additional details.

Course Requirements

- LS 2010 - Engineering Surveying Lecture Credits: 2
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2110 - Real Property Law Credits: 3
- LS 2400 - Basic Geodesy for Surveyors Credits: 2
- LS 3100 - Real Property Descriptions Credits: 2
- LS 3110 - Boundary Evidence Credits: 2
- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4

Required Credits: 30 Hours Minimum

Cybersecurity Certificate

Cybersecurity is the practice of ensuring the confidentiality, integrity, and availability of information within interconnected systems. The certificate in Cybersecurity prepares you for a career securing software-intensive systems.

Requirements

- COSC 2030 - Data Structures Credits: 0
- COSC 4010 - Special Topics in Computer Science Credits: 1-3 (3 credits required for certificate)
- COSC 4760 - Computer Networks Credits: 3
- COSC 3765 - Computer Security Credits: 3
- COSC 4820 - Database Systems Credits: 3
- STAT 2010 Credits: 4

OR

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

OR

- STAT 4220 - Basic Engineering Statistics Credits: 3

Minimum Required: 20 Credits

Note: COSC 4760 can also be replaced by the ECE version ECE 4870 or a second COSC 4010 - Special Topics in Computer Science.

Geographic Information Systems (GIS) Graduate Certificate

This 15-credit graduate certificate gives you a rigorous academic credential in GIS that includes exposure to fundamental and advanced concepts and the chance to pursue your own interests with generous elective opportunities.

Core Requirements (9 Credits)

Complete all courses

- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5220 - Spatial Modeling & Data Analysis Credits: 3

Electives (6 Credits)

Choose from other GIST or interdisciplinary courses with GIS-related foci.

Total: 15 Credits

Geographic Information Systems (GIS) Undergraduate Certificate

The undergraduate certificate in GIS provides opportunities for students to add geospatial training to their majors. The GIS certificate requires three courses (10 credits). This certificate can be added to any major using the Change of Major form available at the Registrar's Office Online Forms and Petitions site.

Undergraduate Certificate in GIS

Complete all courses

- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

Remote Sensing Graduate Certificate

Remote sensing scientists use data collected by satellites, aircraft, and Uncrewed Aerial Systems (drones) to address questions important for agriculture, natural resource and wildlife management, global change science, energy development and other applications. From Google Earth to complex spectral analysis, remote sensing is playing an increasingly important role in many fields. This 15-credit online graduate certificate teaches you the fundamentals of remote sensing and digital image processing, and the freedom to use elective courses to pursue your own interests in related topics.

Core Requirements (6 Credits)

Complete all courses

- GIST 5111 - Introduction to Remote Sensing Credits: 3
- GIST 5120 - Integration of RS and GIS Data Credits: 3

Electives (9 Credits)

- Choose from other remote sensing and UAS courses or interdisciplinary RS courses

Total: 15 Credits

Remote Sensing Undergraduate Certificate

The undergraduate certificate in Remote Sensing provides opportunites for students to add training in how to use and interpret imagery acquired from aircraft, satellites, or ground-based platforms. The Remote Sensing certificate has one required 3-credit course plus electives for a total of 9 credits. This certificate can be added to any major using the Change of Major form available at the Registrar's Office Online Forms and Petitions site.

Core Requirements (3 credits)

- GIST 3140 - Introduction to Remote Sensing Credits: 3

OR one of the following courses

- GIST 4130 - Applied Remote Sensing Credits: 3
- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

Electives (6 credits)

Select any remote sensing or UAS courses (6 credits)

Total: (9 credits)

Uncrewed Aerial Systems Graduate Certificate

In this certificate program, you will learn to safely use Uncrewed Aerial Systems (drones) and to collect and process geospatial data acquired by them. Demand for professionals trained to operate drones and process drone imagery is growing rapidly in agriculture, natural resource management, construction, energy, transportation, business, and many other fields. A significant aspect of this 11-credit online graduate certificate (with a 2-credit, field-based flight school) is to prepare you to become an FAA certified pilot and to use industry-standard image processing techniques.

Core Requirements (8 Credits)

Complete all courses

- GIST 5410 - UAS Sensors and Platforms Credits: 1

- GIST 5420 - UAS Mission Planning Credits: 1
- GIST 5430 - UAS Regulations and Safety Credits: 1
- GIST 5440 - UAS Ground School and Operations Credits: 2

  This course is a 3-day workshop taught on campus; offered twice per year.
- GIST 5450 - UAS Data Acquisition and Processing Credits: 3

Electives (3 Credits)

Choose from remote sensing courses or interdisciplinary UAS applications courses.

Total: 11 Credits

QuickStart Program

Chemical Engineering Quick Start, B.S/.M.S.

The BS/MS Quick Start program in Chemical Engineering (CHE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Chemical Engineering.

Additional Information

Students may apply for admission to the Quick Start program during the second semester of their junior year or during their senior year. This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better-planned use of time should result in reduction of the time required for obtaining the Master of Science in Chemical Engineering (M.S. CHE) degree. Students who enter the Quick Start

program must accept the primary respon¬sibility for actively planning their programs of study to assure timely completion of their coursework and research programs.

The Quick Start program contains two essential elements:

Qualified students may receive provisional admission to the Chemical Engineering graduate program prior to completing the normal application process. This provisional admission will permit students to make their long-term educational plans earlier in their studies, thus providing enhanced opportunities for course selection and involvement in research.

Students in the program may apply up to 6 credit hours of 5000-level courses toward both the B.S. and M.S. degree programs. By completing successfully up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level coursework as undergraduates, easing their transition to the Chemical Engineering graduate program.

For additional information and an application form, please contact the CHE graduate program coordinator at che-info@uwyo.edu or stop by 4055 Engineering Building.

Civil and Architectural Engineering Quick Start, B.S./M.S.

The MSCE Quick Start (Plan A) program in Civil and Architectural Engineering (CAE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor of science (BS) degree in Civil Engineering or Architectural Engineering. This degree program requires 30 credits.

Electrical and Computer Engineering Quick Start, B.S./M.S.

Enables well-qualified students to be admitted to the M.S. program during the junior year of their B.S. program, and to work thereafter towards both the B.S. and M.S. degrees in EE or CPEN.

Degree Requirements

Up to 6 credit hours from UW, at the 5000-level or above, may be counted toward both the B.S. and M.S. degree programs.

For further information please visit our Web site at http://www.uwyo.edu/electrical/graduate/prospective/ms/quickstart.html.

Mathematics Quick Start BS/MS

A five-year combined Master's and Bachelor's degree in mathematics, in which six credits of graduate coursework is counted toward both degrees. UW students must apply to be considered for this degree.

Mathematics Quick Start Information

Overview

The combined BS/MS program in Mathematics is designed to afford highly qualified students in their junior or senior year the opportunity to work towards both the BS and MS degrees in Mathematics. The program allows for advanced students to jump-start the graduate portion of their education by applying credits for graduate courses to both their BS and MS requirements. The MS degree earned under the combined BS/MS program is not a new or separate category of degree. However, through careful planning and coordination,

this program can result in a reduction of the time required to complete both the Mathematics, B.S. and Mathematics, M.S. degrees.

Qualification/Admission

Application for admission may be submitted to the department at any time after the student has completed 75 undergraduate credits. Graduate credits may be applied toward the MS under this program upon the completion of 90 undergraduate credits. Additional minimum requirements for admission are:

1. Minimum GPA of 3.25

2. Minimum GPA in undergraduate math courses of 3.5

3. Completion of two transition courses or their equivalents

4. Three letters of recommendation from UW faculty (at least 2 from UW-Math)

Credits

The BS/MS-Math program allows for students under the guidance of their academic advisor to take graduate courses as part of their BS degree. During their senior year, up to six graduate credits (5000+ level) can be counted simultaneously towards both the BS and MS degrees in Mathematics. In principle, this "double dipping" allows students to earn a MS after completing only 144 credits (120 to earn the BS, 6 of which are applied toward the 30 credits required to earn the MS) instead of 150 credits. In addition, students may reserve a further six credits of 5000 level credits for their MS degrees prior to earning their BS; however, these credits will not be counted toward the BS degree.

Satisfactory progress

The department's Foundation Exam must be passed by the beginning of their second semester of their 4th year. Students in the BS/MS program must have a faculty advisor, with whom they consult to complete a program of study. The Program of Study (POS) must be submitted to the

Mathematics Graduate Committee for approval by the end of the midterm of the first semester in which the student has been admitted into the program. The POS must include all courses to be taken during their senior year to the end of the students MS program. Any of the tracks (plan A or B) available to our Masters students will be available to students in this program. The advisor will aid the student in determining which track is the best for completion of the Masters.

Regulations

Students in this program will be governed by the regulations applicable to any undergraduate student in Mathematics until the student has completed 120 credit hours applicable to the BS degree in Mathematics. Once those 120 credit hours have been completed, the student will be enrolled as a graduate student and be governed by graduate student regulations in the Mathematics graduate program. To the extent possible, once the student transitions to being a graduate student, the student should complete the MS degree in 12 months.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Arts and Sciences requirements:

Students must take two "core" courses in addition to UW's University Studies Program requirements: Diversity in the United States (ASD) and Global Awareness (ASG). • No more than 60 hours in the major subject may be used toward the 120 credit hours required for graduation. • At

least 30 hours in the major subject must be completed with a grade of C or better (the major may require more).

Mechanical Engineering Quick Start, B.S./M.S.

The UW Mechanical Engineering BS/MS QuickStart program offers Mechanical Engineering and Energy Systems Engineering undergraduate students the opportunity to start on MS graduate coursework early and gain credit towards BS and MS degree requirements.

Requirements for Admission

Through judicious choice of undergraduate electives, this program allows double-counting up to two 5000-level courses from the B.S. program toward M.S. degree requirements, thus reducing the time requirement for completing an M.S. degree. Students can apply for admission to the B.S./M.S. program by achieving junior status and meeting the following requirements for admission:

- completion of the four core ME courses (listed below)
- a minimum overall GPA of 3.250
- a minimum GPA of 3.250 in ME courses
- a minimum of two letters of recommendation from ME faculty at UW.

Core Mechanical Engineering Courses

Completion of the following four ME courses is required for admission.

- ME 3010 - Intermediate Mechanics of Materials Credits: 3
- ME 3020 - System Dynamics Credits: 3
- ME 3040 - Thermodynamics II Credits: 3

- ME 3360 - Fundamentals of Transport Phenomena Credits: 3

Additional Information

Students must maintain a GPA of at least 3.250 in their undergraduate and at least 3.000 in their graduate coursework to remain in good standing in the program. Not meeting the GPA requirement places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be dismissed from the Quick Start program. Transfer students must have taken courses equivalent to the ME core courses. Transfer students must have also completed at least 15 credit hours of courses at UW to be eligible for admission.

Until a student in this program has completed all requirements for their B.S. degree they will be governed by the regulations applicable to undergraduate students in the Department. After completion of the B.S degree, they will be governed by the regulations applicable to any graduate student in the ME department. Note that, the M.S. portion of the Quick Start program can be either a Plan-A (thesis option) or a Plan-B (non-thesis option). Please refer to the M.S.-ME degree catalog entry for details.

As many as 6 credit hours of ME department courses at the 5000 level may be counted towards both the undergraduate degree requirements and the requirements for the M.S. degree. In addition, up to six hours of reserved graduate credit can be applied towards the M.S. degree.

Petroleum Engineering Quick Start, B.S./M.S.

The BS/MS Quick Start program is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their BS degree in Petroleum Engineering. These students may apply for admission during their junior year.

Quick Start Program Requirements

The BS/MS Quick Start program in Petroleum Engineering (PETE) is designed to present highly qualified UW students with the opportunity to begin graduate study while they complete their Bachelor of Science (B.S.) degree in Petroleum Engineering. These students may apply for admission to the Quick Start program during their junior year or before starting their senior year.

This program allows for early planning of the graduate portion of a student's education and provides more flexibility in the number of required courses and the order in which they are taken. The more efficient and better planned use of time should result in reduction of the time required for obtaining the Master of Science in Petroleum Engineering degree. Students who enter the Quick Start program must accept primary responsibility for actively planning their Programs of Study to assure timely completion of their course work and research programs.

The Quick Start program contains two essential elements:

- Qualified students may receive provisional admission to the Petroleum Engineering graduate program prior to completing the normal application process. This provisional admission will permit students to make their long-term educational plans earlier in their studies, thus providing enhanced opportunities for course selection and involvement in research.
- Students in the program may apply up to 6 credit hours of 5000-level courses toward both the B.S. and M.S. degree programs. By completing successfully up to 6 credit hours of graduate classes during their senior year, these students will have demonstrated their ability to do graduate-level course work as undergraduates, easing their transition to the Petroleum Engineering graduate program.

For additional information, visit our website for admissions information http://www.uwyo.edu/petroleum/undergradu

ate/current-students/quickstart.html or contact our graduate admissions coordinator at pete-info@uwyo.edu.

Quick Start Prerequisites

Cumulative GPA of 3.25.

PETE GPA of 3.50

3 letters of recommendation, at least 2 from PETE faculty at UW.

- PETE 3200 - Reservoir Engineering Credits: 3
  Prerequisite courses: PETE 2050 and PETE 3025
- PETE 3255 - Basic Drilling Engineering Credits: 3
  Prerequisite courses: ES 2330 and PETE 2050
- PETE 3715 - Production Engineering Credits: 3
  Prerequisite courses: ES 2310, ES 2330 and PETE 2050

Transfer Students' Requirements

Must have taken at least two of the three required PETE courses listed above at UW.

Transfer course work must be from an accredited institution and deemed equivalent to current UW PETE core courses.

Must have completed at least 15 credit hours of PETE course work at UW prior to starting the Quick Start program.

Quick Start Program Retention

Prior to completion of the BS degree, students must:

- Complete all requirements for admission to UW graduate school and the PETE graduate program.
- The Graduate Records Examination (GRE) requirement will be waived.

- Additional English proficiency testing for admission is also waived for international students.
- Maintain a cumulative GPA of at least 3.25 in their overall undergraduate program.
- Maintain a GPA of 3.5 in their PETE courses.
- Maintain a GPA of at least 3.0 in 5000-level (graduate) courses.

- Failure to complete graduate admission requirements prior to the start of the final year of undergraduate study will result in immediate suspension from the program.
- Failure to meet any GPA requirements places a student on academic probation for one semester.
- If the GPA requirement is still not met after academic probation, the student will be suspended from the program.

Statistics Quick Start BS/MS

An advanced degree in Statistics is powerful in its own right; statistical methods are part of the core of data science, so stands as a useful foundation for that as well. The Program in Statistics at the University of Wyoming now offers a QuickStart ("4+1") MS program, within which qualified students can obtain a Statistics, B.S. and a Statistics, M.S. degree in five years.

The program is intended for inspired, high-achieving students; the pace will be intense, as you will need to be taking courses at the graduate level in your undergraduate senior year.

The MS degree requires 30 credits; in order to make the 4+1 program work enrolled students can

- Have two three-credit 4XXX/5XXX classes count towards both the BS and MS degrees. Enrollment must be for the 5XXX section of the course. Tuition is charged at the undergraduate rate.
- Reserve two three-credit 4XXX/5XXX classes for graduate credit. Tuition is

charged at the undergraduate rate, but these two classes *will only count towards the MS.* With these four courses counting towards the MS, there remains 18 credits, which can be done in two semesters of three (three-credit) classes each.

Steps:

- Apply (usually in the Spring of your Junior year) online to the QuickStart-Statistics BS/MS -College of Arts & Science program[1]. You will need (unofficial is fine) college transcripts, a statement of purpose, and three letters of recommendation[2].
- Once you are enrolled in the program, the Admissions Office will work with you to put into play the double-dip and reserved courses mentioned above.

Acceptance into the MS is conditional until your undergraduate degree is awarded and results are in from your taking the GRE, which we recommend you take in your last undergraduate year.

[1] Instructions from the registrar: Apply at: https://www.uwyo.edu/admissions/apply-online.html

The log-in is different from WyoWeb. If you remember the log-in email/password form when you originally applied to UW, you can use the Returning Users option. Otherwise, use the First Time users option. When you get to the page where you select your program of study, select **QuickStart-Statistics BS/MS -College of Arts & Science**. All the Quickstart program are under Q to (hopefully) reduce confusion for non-quickstart applicants. Any questions during the application process can be directed to admissions@uwyo.edu or 766-5160.

[2] These documents are standard for applying to our graduate program; we anticipate we will have a mix of QuickStart students and regular (i.e. 2-year) MS students who are applying from elsewhere.

College of Health Sciences

235 Health Sciences Center

Jacob Warren, Dean
Phone: (307)766-3495
Web site: www.uwyo.edu/hs

The College of Health Sciences is the place for students interested in improving and maintaining the physical, mental, and social health of others. We offer challenging degree programs in the health and wellness professions and serve as the gateway to schools of medicine, dentistry, physical and occupational therapy, physician's assistant study, optometry, and more.

Health sciences students receive not only a superior education from knowledgeable and caring faculty but also precise and personal guidance from conscientious advising personnel. Students benefit, too, from practical experiences that help them refine and test the skills acquired in lectures and labs as well as opportunities to participate in dynamic, interdisciplinary research projects.

The college is also the home of the Wyoming Institute for Disabilities (WIND); two Family Medicine Residency Centers; and the WWAMI Medical Education Program.

We serve as the state certifying office for the Wyoming, Washington, Alaska, Montana, and Idaho (WWAMI) medical education contract program with the University of Washington School of Medicine; WYDENT, the dental education contract program with the University of Nebraska and Creighton University; and two programs for the Western Interstate Commission of Higher Education (WICHE): the Professional Student Exchange Program (PSEP) and the Western Regional Graduate Program (WRGP). Refer to the sections on WWAMI, WYDENT, and WICHE in this catalog for program descriptions or go to www.uwyo.edu/certwy.

Any student seeking admission to programs in the College of Health Sciences will be required to obtain a background check as specified by college policy. Please contact your school or division for specific information.

The College of Health Sciences retains the right to deny or revoke admission to any of its programs for academic, disciplinary, ethical, or professional standards reasons.

Programs of Study

Undergraduate Degrees

Majors

Dental Hygiene, B.S.D.H.

Kinesiology and Health Promotion, B.S.

Medical Laboratory Science, B.S.

Nursing, B.S.N., Basic BSN Option

Nursing, B.S.N., BRAND Option

Nursing, B.S.N., BSN Completion - ReNEW Option

Nursing, B.S.N., BSN Completion - RN-BSN Option

Physical Education Teacher Education K-12, B.S.

Social Work, B.S.W.

Speech, Language and Hearing Science, B.S.

Minor

Disability Studies Minor

Graduate Degrees

Master of Science

Health Services Administration
Nursing
Kinesiology and Health
Speech-Language Pathology

Master of Social Work

Professional Degrees

Doctor of Nursing Practice
Doctor of Pharmacy

Health Sciences and Pre-Professional Health Advising Office

Health Sciences Center, 112-114

The Health Sciences and Pre-Professional Health Advising
Office (www.uwyo.edu/preprof/) provides pre-professional health advising to all UW students regardless of their academic majors, who are interested in pursuing future study in athletic training, chiropractic, dentistry, medicine, optometry, occupational therapy, physical therapy, physician assistant, or other health care careers such as public health or genetic counseling. A bachelor's degree is usually required for admission to a professional program. The University of Wyoming offers professional education in pharmacy, social work, speech-language pathology, and nursing, but not in other health care fields. Students may pursue any UW degree program in which they have an interest and at the same time complete the admissions requirements for the professional program they wish to attend. Students are advised by a career advisor from the Pre-Professional Health Advising Office as they work toward completing their academic and experiential prerequisites to become a strong applicant for a professional program. A primary advisor will also be assigned to each student for their degree program.

Through this office, pre-health students can access current information about admissions requirements, entrance examinations, the application process, professional program curricula, interviewing skills, and test preparation. Specific professional programs may have additional requirements; students are urged to check with the programs they wish to attend.

Information about and applications to certify Wyoming state residency for the WICHE PSEP program, the WWAMI Medical Education program, and the WYDENT dental education program may be found online at http://www.uwyo.edu/certwy.

Please view individual division and program pages list for full course and curriculum listings

Major

Dental Hygiene, B.S.D.H.

Dental hygienists play an important role in promoting health by helping patients understand the connection between good oral health and an overall healthy body. They provide patient education and individualized therapeutic services to help patients reach their oral health goals.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Prerequisites

Students interested in the bachelor's degree in dental hygiene should contact the Health Sciences Advising Office at Health Sciences 110, phone (307)766-3878, e-mail: hsadvise@uwyo.edu.

To be considered for admission to the Dental Hygiene Program at Sheridan College, an applicant must have earned a minimum of a 2.75 GPA and no lower than a C in any of the prerequisite courses listed below. These may be taken at any accredited institution, but if taken at the University of Wyoming, the course numbering will be as follows:

- MATH 1400 - College Algebra Credits: 3
- LIFE 1010 - General Biology Credits: 4
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- COMM 2010 - Public Speaking Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3

- FCSC 1141 - Principles of Nutrition Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR CHEM 1020 General Chemistry I
- MICR 2021 - General Microbiology Credits: 4

  OR MOLB 2021 General Microbiology
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4

UW Requirements for the BSDH Degree

To receive a BSDH through the University of Wyoming, students must also take the following courses:

- Program prerequisites
- A.A.S. in Dental Hygiene from Sheridan College (competitive application required)
- Completion of all USP requirements, including the US and Wyoming Constitutions (USP-V) and Communication III (USP-COM3) requirements
- STAT 2050 or STAT 2070
- At least 120 credits hours, 42 of which are upper-division credits. This usually requires the completion of additional upper-division elective credits. Note: talk to an advisor to know whether you need to fulfill any additional credits toward your BSDH (hsadvise@uwyo.edu).

Required Courses

Required courses after admission to the Dental Hygiene program at Sheridan College (NWCC-D):

Sheridan College Courses

Sheridan College courses, taught ONLY at Sheridan College in Sheridan, WY.

- DHYG 2100 - Dental Health Education Credits: 3
- DHYG 2300 - Preclinical Dental Hygiene Credits: 3
- DHYG 2305 - Clinical Dental Technology Credits: 1
- DHYG 2405 - Dental Anatomy Credits: 2
- DHYG 2450 - Oral Radiology Credits: 3
- DHYG 2451 - Oral Radiology Lab Credits: 1
- DHYG 2470 - Orientation to Dental Hygiene Credits: 3
- DHYG 2200 - Pharmacology Credits: 2
- DHYG 2210 - Dental Embryology & Histology Credits: 2
- DHYG 2350 - Clinical Dental Hygiene I Credits: 3
- DHYG 2400 - Head, Neck, and Oral Anatomy & Physiology Credits: 2
- DHYG 2420 - Clinical Seminar I Credits: 2
- DHYG 2455 - Dental Materials Credits: 2
- DHYG 2456 - Dental Materials Lab Credits: 1

University of Wyoming Courses

University of Wyoming courses (details below), taught ONLY at Sheridan College in Sheridan, WY.

- DHYG 3230 - Clinical Seminar II Credits: 2
- DHYG 3300 - Clinical Dental Hygiene II Credits: 5
- DHYG 3400 - General and Oral Pathology Credits: 3
- DHYG 3600 - Ethics and Law in Dental Hygiene Credits: 2
- DHYG 3750 - Periodontology Credits: 3
- DHYG 3770 - Pain Management Credits: 2
- DHYG 3775 - Pain Management Lab Credits: 1
- DHYG 3250 - Clinical Seminar III Credits: 2
- DHYG 3350 - Clinical Dental Hygiene III Credits: 5
- DHYG 3550 - Community Dental Health Credits: 3

- DHYG 3720 - Office Practice Credits: 2
- DHYG 3800 - Board Review Credits: 1

Kinesiology and Health Promotion, B.S.

The B.S. in Kinesiology and Health Promotion degree prepares students for careers in clinical exercise physiology, health and movement coaching, biomechanics, nutrition, basic science, and behavioral science. The program is also excellent for students seeking to enter the field of medicine.

Degree Requirements

This degree requires 120 credits, 48 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3

- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Courses required for major

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
- CHEM 1000 - Introductory Chemistry Credits: 4 (Meets Physical and Natural World USP requirement)

  OR CHEM 1020 - General Chemistry I
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- KIN 1006 - Introduction to Kinesiology and Health Credits: 1 Not required if student has taken KIN 1101 First-Year Seminar
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR STAT 2070 Introductory Statistics for the Social Sciences
- PHYS 1050 - Concepts of Physics Credits: 4

  OR PHYS 1110 General Physics I
- ZOO 3115 - Human Systems Physiology Credits: 4
- HLED 3020 - Community and Public Health Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3

  A minimum cumulative GPA of 2.750 (preferred 3.000) is required before taking KIN 3021
- KIN 3022 - Lab Exp in Exercise Physiology Credits: 1 Taken concurrently with KIN 3021.

- KIN 3024 - Fundamentals of Health and Fitness Assessment Credits: 3
- KIN 3034 - Lifespan Motor Development Credits: 3

OR KIN 4020 Motor Behavior

- KIN 3037 - Sport Psychology Credits: 3

OR KIN 3038 Exercise Psychology

- KIN 3042 - Biomechanics of Human Movement Credits: 3

Minimum of 6 hours total in:

- KIN 4015 - Internship Experience in Kinesiology Credits: 1-12

OR

- HLED 4015 - Internship Experience in Health Credits: 1-12

OR

- KIN 4016 - Research Experience in Kinesiology and Health Credits: 1-6

OR

- HLED 4016 - Research Experience in Kinesiology and Health Credits: 3-6

Elective Courses

KIN/HLED Upper-Division Elective Coursework (15 credits)

15 credits of 3000-4000 level KIN/HLED elective coursework is required in addition to the required KIN & HLED courses listed above.

Consult with your advisor to see list of possible courses.

General Electives (25 credits)

Degree must include 120 credits, at least 48 of which must be upper-division credits.

KIN and HLED electives (i.e., non required courses) from above may be counted towards these 25 credits. KIN 2050 is recommended as one elective course.

Consult with your academic advisor and your pre-health advisor (if applicable). Pre-health students will need to take additional professional prerequisite courses as electives.

Additional Requirements

Students must complete 48 credit hours of upper division coursework (3000- or 4000-level courses) to meet the Division's minimum 48 credit hour requirement for the B.S. degree in Kinesiology and Health Promotion.

NOTE: Students should complete CPR & first aid certification and the certification should remain current throughout the program. Cards can be presented to the division registrar in Corbett 119 to be cleared of the requirement on the degree evaluation.

PRE-HEALTH ANNOUNCEMENT
This degree is great preparation for various careers in health care and allied health. If you are interested in becoming a strong applicant to graduate school for a career in these fields, please tell your primary advisor and connect with the Pre-Health Advising Office on campus as soon as possible: https://www.uwyo.edu/preprof/ or hsadvise@uwyo.edu
Your career of choice will determine which math and science courses you need to take in your first years, so talk to them early!

Medical Laboratory Science, B.S.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Casper College Requirements

MLTK and PEAC courses are available through an articulation agreement with Casper College **and can be taken only through Casper College.** Students are responsible for fulfilling all University Studies requirements. The articulation agreement, with a proposed semester-by-semester sequence, is available at: http://www.uwyo.edu/TRANSFER/articulation/agreements/medical-laboratory-science.html

- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement) 4 credits at Casper College
- MICR 2021 - General Microbiology Credits: 4

  OR MOLB 2021 General Microbiology (Casper College equivalent: MOLB 2210)
- SOC 1000 - Sociological Principles Credits: 3 **OR** ANTH 1200 Introduction to Cultural Anthropology

OR PSYC 1000

- ENGL 1010 - College Composition and Rhetoric Credits: 3 (Meets Communication I USP requirement)

OR

- COMM 2010 - Public Speaking Credits: 3
- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: BIOL 1010)
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3 (Meets Communication II USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. and Wyoming Constitution USP requirement)
- Fine Arts Elective Credits: 3
- Humanities Elective Credits: 3
- CHEM 1020 - General Chemistry I Credits: 4 (Meets Physical and Natural World USP requirement; Casper College equivalent: CHEM 1025 & CHEM 1028)

OR

- CHEM 1000 - Introductory Chemistry Credits: 4
- Other CC courses:
- PEAC xxxx: Online Activity Credits: 1
- MLTK 1500 - Hematology Credits: 3
- MLTK 1600 - Clinical Immunohematology Credits: 3
- MLTK 1700 - Microscopy: UA Body Fluids Credits: 2
- MLTK 2600 - Clinical Microbiology I Credits: 2
- MLTK 2500 - Clinical Chemistry Credits: 3
- MLTK 2650 - Clinical Microbiology II Credits: 2
- MLTK 2700 - Immunology Credits: 4
- MLTK 2971 - Clinical Practicum: Hematology Credits: 2
- MLTK 2972 - Clinical Practicum: Chemistry Credits: 2
- MLTK 2973 - Clinical Practicum: Immunohematology Credits: 2
- MLTK 2974 - Clinical Practicum: Microbiology Credits: 2
- MLTK 2976 - Clinical Practicum: Serology Credits: 1
- MLTK 2977 - Clinical Practicum: UA / Body Fluids Credits: 1

- MLTK 2978 - MLT Professionalism Credits: 1
- MLTK 2800 - Clinical Pathophysiology Credits: 4
- MLTK 1800 - Principles of Phlebotomy Credits: 3

University of Wyoming Requirements

Upper-division courses required to complete the Bachelor of Science in Medical Laboratory Science (**All MLSK courses are only available through UW-Casper.**):

- CHEM 2300 - Introductory Organic Chemistry Credits: 4

Take a minimum of 8 credits from the following courses:

- LIFE 3050 - Genetics Credits: 4

OR

- LIFE 3600 - Cell Biology Credits: 4

OR

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2

OR

- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3

OR

- PHCY 4441 - Intro Health Institution Leadership Credits: 3

OR

Course Approved by Program Director

- STAT 2050 - Fundamentals of Statistics Credits: 4

Take a minimum of 3 credits from the following courses:

- MOLB 3000 - Introduction to Molecular Biology Credits: 3

OR

- PSYC 4300 - Adolescent Development Credits: 3

OR

- SOC 3000 - Social Change Credits: 3

OR

- SOC 3550 - Medical Sociology Credits: 3

OR

Course approved by Program Director

- MOLB 3610 - Principles of Biochemistry Credits: 4
- MLSK 4840 - Laboratory Education Methodology Credits: 1
- MLSK 4850 - Clinical Research Design Credits: 2
- MLSK 4860 - Laboratory Management Credits: 3 (Meets Communication III USP requirement)
- MLSK 4870 - Advanced Clinical Chemistry Credits: 4
- MLSK 4880 - Advanced Hematology: Erythrocytes Credits: 2
- MLSK 4981 - Advanced Clinical Practicum-Hematology Credits: 3
- MLSK 4982 - Advanced Clinical Practicum-Molecular Credits: 3
- MLSK 4983 - Advanced Clinical Practicum-Immunohematology Credits: 3
- MLSK 4984 - Advanced Clinical Practicum- Microbiology Credits: 3
- MLSK 4890 - Professional Career Paths and Review Credits: 2
- Upper-division elective credits: 1 (see below, consult your academic advisor)

Upper Division Elective Credit Hours

These credits must be 3000 and above, and achieved through online outreach or on campus courses. A list of courses that are acceptable to fulfil this requirement can be made available to the student. If a course is in question, it is highly suggested to the student to contact the UW-C advising department or the MLS program director for requirement fulfillment confirmation.

Enrichment Rotations and Laboratory Sessions

The final semester of the student's senior year is comprised of didactic material being delivered in an online hybrid manner, supplemented with on campus lab sessions at the UW-Casper campus. These lab sessions will be accompanied by an observational enrichment rotation at a

clinical site. This enrichment rotation will allow for the observation of advanced methodologies in a practical environment. It will be the students' responsibility for all travel and housing costs associated with the advanced clinical practicum courses.

Probation

Students who do not meet the minimum grade requirements stated above for MLSK course work will be placed on probation. In this period of time, students will be allowed to continue in the program under supervision, but will submit a petition which is an individualized plan of study for the next semester that is developed by the student in agreement with and signed by an academic advisor. All completed MLSK courses that fail to meet minimum grade requirements (C or 2.000 or better) must be repeated by the student. Students shall not be allowed to progress to the final semester until all courses in the previous semesters are successfully completed and a GPA of 2.000 is obtained.

Additional Requirements

The program requires 122 credit hours total, with 50 credit hours obtained in the junior/senior years to graduate. Students must complete a minimum of 42 upper division hours, 30 of which must be earned from the University of Wyoming.

Prerequisite for admission to the Medical Laboratory Sciences degree is completion of the Medical Laboratory Technician program at Casper College, or another accredited MLT program. Students interested in the MLS degree who already hold a bachelors degree should contact program director Jed Doxtater at jdoxtate@uwyo.edu.

Nursing, B.S.N., Basic BSN Option

"Basic BSN" is an on-campus BSN option for students who want to become a registered nurse and earn the Bachelor of

Science in Nursing degree. Learning facilities include state-of-the-art classrooms and Clinical Simulation Center.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Pre-Clinical Component

- ENGL 1010 - College Composition and Rhetoric Credits: 3
- MATH 1400 - College Algebra Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

- CHEM 1020 - General Chemistry I Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1

- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

- ZOO 3115 - Human Systems Physiology Credits: 4

Clinical Component

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 2340 - Developmental Influences on Health Credits: 3
- NURS 3445 - Fundamentals and Health Assessment in Professional Nursing Practice Credits: 4
- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4
- NURS 3490 - Health Promotion in Professional Nursing Practice Credits: 3
- NURS 3690 - Professional Nursing Acute/Chronic Illness Credits: 3

- NURS 3695 - Professional Nursing Acute/Chronic Illness Practicum Credits: 4
- NURS 4125 - Evidence-Based Nursing Credits: 3
- NURS 3890 - Professional Nursing Care in Complex Illness Credits: 3
- NURS 3891 - Professional Nursing Care of Older Adults Credits: 3
- NURS 3892 - Professional Nursing Care in Mental Health and Illness Credits: 3
- NURS 3895 - Professional Nursing Care in Complex Illness Practicum Credits: 4
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3
- NURS 4690 - Professional Nursing Care of Populations Credits: 4
- NURS 4691 - Professional Nursing Care of Children and Families Credits: 4
- NURS 4695 - Professional Nursing Care of Populations Practicum Credits: 4
- NURS 4865 - Professional Nursing Leadership Credits: 3
- NURS 4895 - Professional Nursing Capstone Practicum Credits: 9-12

  With approval from FWWSON, ROTC students taking ARMY 3050 may apply 3 credits to this requirement and take NURS 4895 for 9 credits.

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC:

Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Basic BSN has two different admission entries: 1) Freshman Admission to the Nursing major and 2) Non-Freshman Admission to the Nursing major. Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Freshman Admission or Non-Freshman Admission under Admission to Basic BSN)*.

**Applicants meeting minimum requirements are not guaranteed admission.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for Basic BSN. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic BSN, Basic BSN Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

The minimum requirement to graduate with a BSN is 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450] and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Nursing courses are offered fall and spring semesters of the university academic calendar. Students are required to have transportation to all clinical sites. A number of clinical sites are located in Cheyenne. The capstone practicum experience during spring of the senior year requires students to live in locations away from campus.

Program of Study

A detailed, semester sequenced Basic BSN Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, Basic*

BSN, Basic BSN Program of Study). All required courses identified under Pre-Clinical Component and Clinical Component must be passed with a C or better (or S) except for CHEM 1000, which requires a B or better. .

Applicable for: Freshman/Non-Freshman Admission to the Nursing Major

Nursing, B.S.N., BRAND Option

"Bachelors Reach for Accelerated Nursing Degree": an accelerated Bachelor of Science (BSN) option for students with a previous non-nursing baccalaureate degree who desire to become a registered nurse. This option is a 'summer to summer' format with a full-time schedule of courses.

Degree Requirements

This degree requires 55-58 credits.

Prerequisite Courses

- PSYC 1000 - General Psychology Credits: 3
- FCSC 1141 - Principles of Nutrition Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

- CHEM 1000 - Introductory Chemistry Credits: 4

*Must earn a grade of B or better if taking CHEM 1000.

OR

- CHEM 1020 - General Chemistry I Credits: 4

- LIFE 1010 - General Biology Credits: 4
- KIN 2040 - Human Anatomy Credits: 3

- KIN 2041 - Human Anatomy Laboratory Credits: 1
- ZOO 3115 - Human Systems Physiology Credits: 4

- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

Required Graduate Course

US & WY Constitutions (V) course.

- POLS 1000 - American and Wyoming Government Credits: 3

Nursing Courses

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- NURS 3745 - Nursing Fundamentals and Health Assessment Credits: 4
- NURS 3790 - Health Promotion of Individuals, Families, and Populations Credits: 3
- NURS 3770 - Nursing Care in Acute and Chronic Illness Credits: 6
- NURS 3771 - Nursing Care in Acute, Chronic, and Complex Illness Practicum Credits: 5
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3

- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3
- NURS 4690 - Professional Nursing Care of Populations Credits: 4
- NURS 4691 - Professional Nursing Care of Children and Families Credits: 4
- NURS 4735 - Vulnerable Populations and Mental Health Credits: 3
- NURS 4771 - Nursing Care of Families, Vulnerable Populations, and Behavioral Health Practicum Credits: 4
- NURS 4775 - Nursing Senior Capstone Credits: 10
- NURS 4865 - Professional Nursing Leadership Credits: 3

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who meet university requirements are admitted to the university in the pre-nursing component of BRAND *(declared PNBR major)*. The number of students admitted to BRAND is limited, and admission is a competitive process.

**Applicants meeting minimum requirements are not guaranteed admission.

Criteria for admission to BRAND as well as application instructions and deadlines can be found on the nursing website, www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, Admission Criteria/Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BRAND. These requirements can be found on the nursing

website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, BRAND Student Handbook - section 6, Scholastic Requirements)*.

Curriculum

The minimum requirement for the second bachelor's (SB) degree candidate to graduate with a BSN is 50 semester hours of credit. This curriculum option totals 55 credit hours.

The minimum requirement for an SB degree is 30 additional semester hours earned from UW, 12 of which must be in upper division level courses. If prior baccalaureate degree was earned through UW, the 30 credit minimum is in addition to the credits earned for previous degree. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450] and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability. PHCY 3450 and PHCY 4470 must be completed within three years **before** the May start date.

Program of Study

A detailed, semester sequenced BRAND Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BRAND, BRAND Program of Study)*. All required courses identified under Prerequisite Courses and Nursing Courses must be passed with a C or better (or S).

Nursing, B.S.N., BSN Completion - ReNEW Option

The BSN Completion - ReNEW (Revolutionizing Nursing Education in Wyoming) option is Wyoming's shared BSN nursing curriculum. Entry into the ReNEW option begins at a participating Wyoming community college ADN nursing program.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Related Coursework

- MATH 1400 - College Algebra Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

OR

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

OR

*Must earn a grade of B or better if taking CHEM 1000.

- CHEM 1020 - General Chemistry I Credits: 4
- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4
- Humanities Elective course Credits: 3 *(not PSYC 1000)*

Nursing Courses

Entry Point: First three courses in the program of study.

- NURS 3006 - BSN Completion Foundations Credits: 2
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3 (COM3)
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3

Enrollment open after NURS 3006, 4055, 4665 completion.

- NURS 4630 - Public/Community Health Credits: 2
- NURS 4635 - Community as Client Credits: 2
- NURS 4640 - Health Equity Credits: 2

- NURS 4645 - Population Health Credits: 2
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4840 - Healthcare Systems and Policy Credits: 2

Enrollment after completion of ADN.

- NURS 4835 - Leading Nursing Practice Credits: 2
- NURS 4845 - Innovation in Nursing Practice Credits: 2
- NURS 4855 - Contemporary Nursing Practice Credits: 2

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who apply to UW and meet university requirements are admitted to the university in the pre-nursing component of ReNEW BSN *(declared PNRN)*. Criteria for UW admission can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BSN Completion. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW or RN-BSN, BSN Completion Student Handbook - section 6, Scholastic Requirements).*

Curriculum

The minimum UW requirement to graduate with a BSN in 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450], and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Program of Study

A detailed Program of Study for ReNEW ADN Entry can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, Wyoming's ReNEW, Program of Study for ReNEW ADN Entry)*. All required courses identified under Related Coursework and Nursing Courses must be passed with a C or better (or S).

Nursing, B.S.N., BSN Completion - RN-BSN Option

The BSN Completion - RN-BSN option is for non-ReNEW associate degree or diploma-educated registered nurses. This option is delivered nationwide with no on-campus time required.

Degree Requirements

This degree requires a minimum of 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met

before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Related Coursework

- MATH 1400 - College Algebra Credits: 3

  OR
- MATH 1405 - Trigonometry Credits: 3

  OR
- MATH 1450 - Algebra and Trigonometry Credits: 5

- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- FCSC 1141 - Principles of Nutrition Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- LIFE 1010 - General Biology Credits: 4
- CHEM 1000 - Introductory Chemistry Credits: 4

  OR

  *Must earn a grade of B or better if taking CHEM 1000.
- CHEM 1020 - General Chemistry I Credits: 4

- An approved Human Anatomy course Credits: 4
- An approved Human Physiology course Credits: 4
- MICR 2021 - General Microbiology Credits: 4

OR

- MOLB 2021 - General Microbiology Credits: 4

OR

- MICR 2240 - Medical Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- PHCY 3450 - Foundational Pathophysiology Credits: 4
- PHCY 4470 - Fundamentals of Pharmacology Credits: 4

Nursing Courses

Entry Point: First three courses in the program of study.

- NURS 3006 - BSN Completion Foundations Credits: 2
- NURS 4055 - Application of Evidence in Nursing Practice Credits: 3 (COM3)
- NURS 4665 - Healthcare Informatics in Professional Nursing Practice Credits: 3

Enrollment open after NURS 3006, 4055, & 4665 completion.

- NURS 4630 - Public/Community Health Credits: 2
- NURS 4635 - Community as Client Credits: 2
- NURS 4640 - Health Equity Credits: 2
- NURS 4645 - Population Health Credits: 2
- NURS 4830 - Leadership in Healthcare Today Credits: 2
- NURS 4835 - Leading Nursing Practice Credits: 2
- NURS 4840 - Healthcare Systems and Policy Credits: 2
- NURS 4845 - Innovation in Nursing Practice Credits: 2

Exit Point: Must be taken in last semester.

- NURS 4855 - Contemporary Nursing Practice Credits: 2

Escrow Courses

(Credits are automatically posted to the student's UW transcript during the semester of NURS 4855 enrollment. These credits represent credit for nursing content learned in the associate degree or diploma in nursing program.)

(Note: Course requirements/expectations are subject to change. Maintain contact with FWWSON for current expectations.)

- NURS 3665 - Foundations of Professional Nursing Roles Credits: 3
- NURS 3890 - Professional Nursing Care in Complex Illness Credits: 3
- NURS 3895 - Professional Nursing Care in Complex Illness Practicum Credits: 4

Additional Requirements

Expected Student Learning Outcomes

At completion of the Bachelor of Science in Nursing (BSN) degree, graduates will be able to meet the end of program student learning outcomes:

- Employ evidence-based information and communication technologies to deliver safe nursing care. (Domains 4, 5, & 8; CCC: Safety, Clinical Judgment, Patient centeredness)

- Integrate knowledge from nursing and other disciplines to inform clinical judgement. (Domain 1 & 2; CCC: Clinical Judgement, Health Promotion, Patient Centeredness)

- Generate evidence-based solutions to system level problems across multiple healthcare settings. (Domain 7; CCC: Leadership, Clinical Judgment, Safety)

- Coordinate person-centered care for optimal health and wellness. (Domain 2; CCC: Patient centered care & Health Promotion)

- Demonstrate professional behaviors that align with nursing standards and scope of practice. (Domain 9; CCC: Professionalism)

- Implement effective partnerships, policy, and advocacy across diverse populations. (Domains 3 & 6; CCC: Leadership & Health Promotion)

- Establish self-reflective behaviors to foster personal well-being, lifelong learning and leadership traits. (Domain 10; CCC: Leadership, Professionalism, and Health Promotion)

*Domains: AACN Essentials Domains

**CCC: RENeW Core Curricular Concepts

Admission

Students who apply to UW and meet university requirements are admitted to the university in the pre-nursing component of RN-BSN *(declared PNBS)*. Criteria for admission as well as application instructions can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, RN-BSN, Admission Criteria/ Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for BSN Completion. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion,*

Wyoming's ReNEW or RN-BSN, BSN Completion Student Handbook - section 6, Scholastic Requirements).

Curriculum

The minimum UW requirement to graduate with a BSN in 120 semester hours of credit. Evaluation of transfer courses is required to determine credit eligibility.

The required courses, PHCY3450 - Foundational Pathophysiology [4450], and PHCY4470 - Fundamentals of Pharmacology, must be upper division (3000/4000 level). Lower division/Community College (1000/2000 level) courses do not satisfy this requirement. Transfer courses must be reviewed for acceptability.

Program of Study

A detailed Program of Study for RN-BSN Entry can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, BSN, BSN Completion, RN-BSN, Program of Study for RN-BSN Entry).* All required courses identified under Related Coursework and Nursing Courses must be passed with a C or better (or S).

Physical Education Teacher Education K-12, B.S.

The Physical Education program is a nationally accredited program where students learn the content and teaching methods required to be certified to teach physical education K-12 in the public schools of Wyoming.

Degree Requirements

This degree requires a minimum of 120 credits, 48 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites for Admission

Prerequisites for admission into the Physical Education Teacher Education program:

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)
  OR MATH 1405 Trigonometry
- CHEM 1000 - Introductory Chemistry Credits: 4 (Meets Physical and Natural World USP requirement)

OR CHEM 1020 - General Chemistry

- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- PHYS 1050 - Concepts of Physics Credits: 4

  OR PHYS 1110 General Physics I
- STAT 2050 - Fundamentals of Statistics Credits: 4

  OR STAT 2070 Introductory Statistics for the Social Sciences
- ZOO 3115 - Human Systems Physiology Credits: 4
- EDSE 3540 - Teaching Reading and Study Strategies in the Content Areas Credits: 2-4
- KIN 2001 - Movement Core 1: Sport & Game-based Approaches in Physical Education Credits: 3
- KIN 2002 - Movement Core 2: Lifetime Physical Education Credits: 3
- KIN 2003 - Movement Core 3: Adventure and Outdoor Education Credits: 3
- KIN 2004 - Movement Core 4: Fundamental Movement Education Credits: 3

Required Courses After Admission

Required courses after admission into the professional program.

Consult with your academic advisor for the order in which these courses must be taken, or if you have any questions.

- KIN 3011 - Teaching Methods in Physical Education K-12 Credits: 3
- KIN 3012 - Teaching Laboratory I Credits: 3 (Meets USP Communication II requirement)

- KIN 3015 - Teaching Laboratory II Credits: 3
- KIN 3021 - Physiology of Exercise Credits: 3
- KIN 3022 - Lab Exp in Exercise Physiology Credits: 1

  (KIN 4029 can be taken in place of KIN 3021 and KIN 3022)
- KIN 3034 - Lifespan Motor Development Credits: 3
- KIN 3037 - Sport Psychology Credits: 3

  OR
- KIN 3038 Exercise Psychology
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- KIN 3060 - Understanding Skill Acquisition for Teaching Credits: 3
- KIN 4012 - Curriculum Development in Physical Education Credits: 3
- KIN 4013 - School Administration for the Health Sciences Credits: 2
- KIN 4017 - Teaching Laboratory III Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4080 - Assessment in Physical Education Credits: 3 (Meets USP Communication III requirement)
- KIN 4099 - Student Teaching in Physical Education Credits: 1-16 ***

Note(s):

*** Note: Students must be certified in first aid and CPR prior to enrollment in KIN 4099.

Additional Requirements

Students must complete 48 credit hours of upper-division coursework (3000- or 4000-level courses) to meet the Division's requirement for the B.S. in Physical Education Teacher Education. For any elective coursework, it is recommended that these courses are selected from the Affiliated Options on this page.

In order to advance into the professional program, students must be admitted through a competitive application process. The entry

course for admission to the Physical Education Teacher Education (PHET) program is KIN 3012, Teaching Lab 1. To be eligible for the PHET professional program, students must have completed all program course prerequisites and have a minimum cumulative grade point average of 2.750, preferred GPA of 3.000.

NOTE: Students should complete CPR certification and the certification should remain current throughout the program. Cards can be presented to the division registrar in Corbett 119 to be cleared of the requirement on the degree evaluation.

Affiliated Options

The Division of Kinesiology and Health offers two options for the general undergraduate population. They require course work beyond degree requirements.

Athletic Coaching Endorsement/Permit

Students who wish to qualify for an athletic coaching permit to coach in Wyoming public schools must complete four courses. Note: Endorsements are for current teachers. Permits are for those who are not a licensed educator.

- CPR Certification
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- Foundations of Coaching KIN 4090 /KIN 5090 - 3 Credit Hours
- Students completing the Physical Education Teacher Education undergraduate degree are exempt from the KIN 4090/5090 requirement.
- Coaching in... Experience (completed at a community college or complete a coaching experience in a specific sport for one season or more with a letter written by your supervising coach to submit with your PTSB endorsement application form).

School Health Education K-12

In addition to completing a bachelor's degree in teaching at the secondary level from an approved university program, 25 credit hours are required to be endorsed to teach health education K-12 in the public schools of Wyoming.

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- CPR Certification
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3

- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

Adapted Physical Education K-12 Endorsement

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for K-12 endorsements in adapted physical education and/or health education by completing the following course requirements:

- EDEX 2484 - Introduction to Special Education Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2
- KIN 4065 - Resources in Adapted Physical Education Credits: 2-3
- KIN 4075 - Assessment in Adapted Physical Education Credits: 3

Social Work, B.S.W.

Want to make a difference in the world? Turn your passion into action. Our BSW program combines classroom and field experience to provide you with knowledge and skills to help improve the quality of life of individual clients and impact communities.

Degree Requirements

This degree requires a minimum of 120 credits, 50 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Prerequisites for Admission

Prerequisites for admission into the BSW program includes a C or higher in the following courses:

- SOC 1000 - Sociological Principles Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- POLS 1000 - American and Wyoming Government Credits: 3 (Meets U.S. & Wyoming Constitution USP requirement)
- SOWK 2000 - Introduction to Social Work Credits: 3
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4 (Meets Quantitative USP requirement)
- ECON 1010 - Principles of Macroeconomics Credits: 3
- Human Biology**.** Credits: 3. (PSYC 2080: Biological Psychology or KIN 2040: Human Anatomy)*

  *This requires a prerequisite general biology course, usually LIFE 1003: Current Issues in Biology.

  Be advised: All applicants must complete a Communication 1 (COM1) and Communication 2 (COM2)/2nd level writing course with a C or higher and have at least 60 credit hours at UW or transferrable to UW.

Required courses after admission into the Social Work program

NOTE: Once admitted, social work students must achieve a C or better in all social work courses and maintain a 2.500 or above UW and SOWK GPA every semester after admittance to Admitted Major. Please view full requirements and expectations for admitted majors on the Division of Social Work catalog page.

- SOWK 3530 - Human Behavior and the Social Environment I Credits: 3
- SOWK 3630 - Generalist Social Work Practice I, Individual and Families Credits: 3
- SOWK 3645 - Ethical Social Work Practice Credits: 3

- SOWK 4060 - Diversity and Difference in Social Work Practice Credits: 3
- SOWK 3540 - Human Behavior and Social Environment II Credits: 3
- SOWK 3640 - Generalist Social Work Practice II, Groups Credits: 3
- SOWK 3650 - Generalist Social Work Practice III; Communities and Organizations Credits: 3
- SOWK 4850 - Human Rights, Social Justice and Social Policy Credits: 3
- SOWK 4560 - Social Work Research Credits: 3
- SOWK 4990 - Social Work Practicum Credits: 5-10 (5 credits each semester of final year). For full details of the BSW field practicum, view the Division of Social Work page.
- SOWK 4991 - BSW Field Seminar I Credits: 2
- SOWK 4570 - Research-Informed Practice Credits: 3 (Meets Communication III USP requirement)
- SOWK 4992 - BSW Field Seminar II Credits: 2
- Social Work electives Credits: 6 (selected with advisor consultation)

Electives

General Electives (28-29 credits)

Degree must include 120 credits total, at least 42 of which must be upper-division credits. Total number of general elective credit needed may vary per student. Consult with your academic advisor to determine the best electives for your particular interests or needs. It may be worthwhile to add a minor to your degree.

Suggested lower-division electives:

Below are suggested lower-division electives that can be taken before admission into the BSW program. Consult with your academic advisor to determine the best electives for your particular interests or needs. It may be worthwhile to add a minor to your degree.

- SPAN1010 - First Year Spanish I Credits: 4
- SPAN1020 - First Year Spanish II Credits: 4
- RELI1000 - Introduction to Religion Credits: 3
- WIND2100 - Introduction to Disability Studies Credits: 3
- SOC2350 - Race and Ethnic Relations Credits: 3

Suggested upper-division electives:

- FCSC 3110 Personal Finance Credits: 3
- FCSC 4112 Family Decision-Making and Resource Management Credits: 3

Additional Requirements

Social work is a professional degree program. Prior to admission to the professional degree program, students who are working to complete program prerequisites and most University Studies courses are "Social Work-Pre-Admit" majors. Students must be accepted into the BSW program as an admitted "Social Work" major in order to proceed in the program and enroll in professional degree courses beginning in the fall semester (usually of the junior year). Acceptance to Admitted Major (professional degree program) is competitive and requires an application. See the Division of Social Work catalog page for full admission requirements.

The program requires 120 credit hours to graduate. Students must have completed all social work requirements, 42 upper-division hours, maintain a 2.500 GPA overall, a 2.500 GPA in social work coursework, and have achieved a grade of C or better in all social work courses. Courses must be taken for a letter grade unless offered for S/U only.

Speech, Language and Hearing Science, B.S.

Learn about working with people to improve their speech, language, and hearing. Study American Sign Language. This pre-

professional degree is preparation for application to a graduate studies in speech-language pathology, audiology, or other areas.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Courses required for major

- PSYC 1000 - General Psychology Credits: 3 (Meets 3 out of 6 credits of Human Culture USP requirement)
- MATH 1400 - College Algebra Credits: 3 (Meets Quantitative USP requirement)

- LIFE 1010 - General Biology Credits: 4 (Meets Physical and Natural World USP requirement)
- PHYS 1050 - Concepts of Physics Credits: 4 (Meets Physical and Natural World USP requirement)
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- FCSC 2121 - Child Development Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- SPPA 1010 - Introduction to Communication Disorders Credits: 3
- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- SPPA 2210 - Phonetics Credits: 3
- SPPA 3160 - Speech and Language Development Credits: 4
- SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing Credits: 4
- SPPA 4240 - Speech and Language Disorders Across the Lifespan Credits: 3
- SPPA 4340 - Basic Audiology Credits: 3
- SPPA 4150 - Aural Rehabilitation Credits: 3
- SPPA 4250 - Clinical Methods Credits: 4
- SPPA 4380 - Neurological Basis of Communication Credits: 3

Elective Courses

Upper-Division Social Behavior Credits (choose one)

Choose one from the list below (students are responsible for knowing prerequisites for these courses).

- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- PSYC 4310 - Developmental Psychopathology Credits: 3

- PSYC 4320 - Intellectual Disability
Credits: 3

Electives

Lower division (1/2000) open electives (student choice - any course that does not meet another university or major requirement): 24 credits

Upper division (3/4000) open elective (student choice - any course that does not meet another university or major requirement): 12 credits

Notes:

A grade of C or better must be earned in all SPPA courses; courses in the major must be taken for a letter grade unless offered for S/U only.

Speech, language, and hearing topic courses from community colleges do not transfer or count as course equivalents. Students can reference the UW Transfer Catalog to determine if an American Sign Language course taken elsewhere will transfer to UW as a course equivalent.

Due to degree and related accreditation requirements for this program, official grades recorded on a college transcript are required for the following courses (AP/IB scores can not be used):

- LIFE 1010
- STAT 2050
- PSYC 1000
- PHYS 1050 or CHEM 1020

Additional Information

The BS degree prepares students for graduate study in communication disorders disciplines. Students study the normal processes associated with understanding and producing speech and language. These include anatomy, physiology, and neurology. Students also learn about normal development of speech and language in children, and they are introduced to

disorders and clinical methods. Courses in related areas, such as anatomy, psychology, child development, and statistics are also part of the program. Students may obtain initial clinical experiences through observing clinical practice or completing patient simulations as part of the senior year coursework.

The B.S. degree is considered pre-professional preparation for entrance into a graduate program in speech-language pathology, audiology, or related fields. A clinical graduate degree is required in order to become a speech-language pathologist or an audiologist. The B.S. degree at UW is not designed to meet requirements to become a speech-language pathology assistant (SLP-A), additional practicum and some coursework at another institution would be required to become an SLP-A. For information on SLP-A technical programs please visit ASHA.org.

Student Learning Objectives

The BS degree provides students with a broad-based foundation in the sciences and humanities, fundamental knowledge of human communication, communication development, and the nature of communication disorders across the lifespan. Specific learning objectives can be found on the BS program website. https://www.uwyo.edu/comdis/student-objectives-handbooks-manuals.html.

Criminal Background Check

Eligibility for the B.S. degree is contingent upon passing a criminal background check. Usually during the senior year, each student will be required to obtain, pay for, and pass a criminal background check as part of enrollment in advanced courses. These background checks are required in order to participate in any aspect of the UW Speech & Hearing Clinic. The results of the

background check may impact a student's ability to complete the required coursework and obtain the degree. Please see the College of Health Sciences website for the policy and procedures document.

National Student Speech Language Hearing Association

Students can join the UW chapter of the National Student Speech Language Hearing Association (NSSLHA) to become a part of a community of students interested in communication sciences and disorders. Objectives are to promote and recognize scholastic achievement and to support clinical, research, and service endeavors.

Minor

Disability Studies Minor

A diverse interdisciplinary field that investigates the nature, meanings, and consequences of dis/ability from social, cultural, and policy perspectives.

Program Goals:

Disability studies views disability as a political construction, cultural identity, and valued lived experience, not simply as a medical condition. The minor curriculum embeds these overarching goals:

- Promoting full civic integration of people with disabilities;
- Positioning disability as an integral aspect of human diversity; and
- Addressing disability rights, equity, and justice in personal, relational, community, and structural contexts.

Requirements:

All students in the minor are required to complete 18 credit hours consisting of three WIND core courses, one WIND elective, and two additional WIND or external electives related to disability studies. External electives should be selected in consultation with a disability studies faculty advisor.

Required Core Courses: 9 Credits

- WIND 2100 - Introduction to Disability Studies Credits: 3
- WIND 4020 - Disability Studies Theory and Practice Credits: 3
- WIND 4500 - Practicum Credits: 3

WIND Electives: 3-9 Credits

At least 3 credits, and up to 9 credits, selected from WIND electives:

- WIND 2400 - Gender and Disability Credits: 3
- WIND 2490 - Special Topics Credits: 1-3
- WIND 3150 - Literature and Medicine Credits: 3
- WIND 4050 - Independent Study Credits: 1-3
- WIND 4100 - Global Disability Studies Credits: 3
- WIND 4200 - Diverse Minds Credits: 3
- WIND 4300 - Transnational Disability Studies Credits: 3
- WIND 4600 - Special Topics Credits: 3

External Electives: 0-6 Credits

The following UW courses are accepted as external electives:

- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4

- EDEX 2484 - Introduction to Special Education Credits: 3
- SPPA 4070 - Deaf Studies Credits: 3
- FCSC 4124 - Families of Young Children With Special Needs Credits: 3
- PSYC 4320 - Intellectual Disability Credits: 3
- Note: many courses in GWST, AMST, and other units in the School of Culture, Gender, and Social Justice would also be acceptable external electives.

More Information:

As an interdisciplinary minor, this program complements majors across the university. For more information, visit the website: www.uwyo.edu/wind/disabilitystudies/index.html, contact program director, Michelle Jarman at mjarman@uwyo.edu or by phone at 766-5060, or visit the WIND office located in the Health Sciences Building, room 147.

18 Credit Hours Total

Graduate

Doctor of Pharmacy, MBA/PharmD Dual Degree

This dual degree program provides students with a complementary business degree to start their own business or to advance into management positions in their careers. Students acquire decision-making skills that allow them to excel in their field of practice.

Additional Requirements

The School of Pharmacy offers an MBA/Pharm.D. dual degree program that is geared toward students who have already obtained a Bachelor's degree. A dual M.B.A./Pharm.D. degree allows a student to diversify their skill set and enhance their value proposition to prospective employers.

The Master of Business Administration/Doctor of Pharmacy dual degree takes five years to complete - four years of Pharmacy studies and one year of MBA core courses. Students spend their first year (Fall, Spring, and Summer semesters) in the MBA program taking core courses and completing other program requirements. The next four years will encompass the traditional Pharm.D. curriculum. Students completing this program will earn a Doctor of Pharmacy degree and a Master of Business Administration degree. Please review the program specific information for each program:

- Business Administration, M.B.A.
- Pharmacy, Pharm.D.
- MBAM 5101 - MBA Foundations Credits: 1
- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 - Executive Leadership II Credits: 1
- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3

MBA-MBA students, including dual degree students, must take an additional nine (9) credit hours of 4000 or 5000 level College of Business courses. Three (3) of these credit hours can be taken outside the College of Business. Dual degree students (JD/Pharm.D./MS) may take three (3) credit hours outside the College of Business following dual degree agreement guidelines.

Please contact your advisor for additional information.

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

A dual degree program leading to both the Bachelor of Science degree in Physiology and the Doctor of Pharmacy degree. This program allows students to apply a biomedical science background with great pharmacy career options.

Overview

The School of Pharmacy and the Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources offer a dual degree program in which a student who meets the admission qualifications of both programs may simultaneously pursue a combined program of study leading to both the Bachelor of Science degree in Physiology (Physiology BS [PHSO]) and the Doctor of Pharmacy (PharmD) degree. The School of Pharmacy accepts up to ten (10) credit hours of courses in the Physiology BS program toward the credits of the PharmD degree. The College Agriculture, Life Sciences, and Natural Resources Department of Zoology/Physiology accepts up to eighteen (18) credit hours of required courses in the PharmD program toward the credits of the Physiology BS degree. The specific required courses accepted by each will be chosen from the applicable University Catalog. In total, up to twenty (28) credits can be shared across the degrees.

Students will typically spend years one to three in the Department of Zoology and Physiology and years four through seven (4-7) in the School of Pharmacy. Students

desiring to complete the dual program in a different sequence should consult with, and seek approval from each program, keeping in mind the program requirements.

Admission to the Dual Program

Student who wish to declare the dual Physiology BS-PharmD program start their freshman year as Physiology or Pre-pharmacy majors and declare as sophomores provided they are on-track to meet the PharmD admissions standards.

Early Assurance: Students in the Dual Degree Program with sophomore standing and a college GPA of 3.3 will be provisionally accepted into the PharmD program, pending a successful interview.

Basic Provisions of the Dual Degree Offering

1. The School of Pharmacy will accept up to ten (10) credit hours of coursework from the Physiology BS program, provided the student earns a grade of "C" or better. The exact courses designated for credit toward the PharmD will be jointly determined from the applicable catalog by an approving authority in both programs.

2. The Department of Zoology and Physiology of the College of Agriculture, Life Sciences and Natural Resources will accept up to eighteen (18) credit hours coursework from the PharmD, provided the student earns a grade of "C" or better. The exact PharmD courses designated for credit toward the Physiology BS degree will be jointly determined from the applicable catalog by an approving authority in both programs.

3. Separate grade point averages will be calculated for each program.

4. Students in the dual program must meet all other requirements for the PharmD and Physiology BS programs such as co-curricular programming, experiential learning, and other requirements.

5. The PharmD degree and the Physiology BS degree will be awarded when all the degree program requirements for each respective program have been met.

6. Both the School of Pharmacy and the Physiology BS program will include information on their websites about the dual degree and will strive to promote the program as part of their recruitment efforts.

7. The Physiology BS degree will be the primary degree for years 1-3, then the PharmD degree will be the primary degree once the students matriculate into pharmacy school.

Dual Physiology BS/PharmD Degree

I. ADMISSION
a. Interested students should declare the Dual Physiology BS/PharmD Degree track during years 1-3 of the Physiology

II. GRADUATION
a. Students in the dual degree program will complete all graduation requirements for both degree programs.

III. DEGREE CONFERRAL
a. Two separate degrees will be posted and may include a note at the top of either transcript indicating the number of Physiology hours or PharmD hours accepted as electives toward either degree.

b. This will be the only indication on the student's transcript that they were pursuing a dual Physiology BS/PharmD degree. This note may be necessary to account for the shared credits across degrees and comply with the minimum credits required by the University.

Changes to Curriculum

This agreement will apply to the degree requirements for the full-time, on-campus Physiology BS degree and Doctor of Pharmacy degree outlined in the applicable University of Wyoming Catalog. Issues related to individual students or changes in either degree program requirements will be jointly resolved by the School of Pharmacy and the Department of Zoology and Physiology.

Curriculum Information

Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program Curriculum for the Dual Physiology Bachelor of Science/Doctor of Pharmacy Degree Program

Health Services Administration, M.S.

The School of Pharmacy offers a Master of Science online degree in health services administration (MSHSA).

Specialty Tracks

All students take a core set of courses and select one specialty track.

Biopharmaceutical Regulatory Compliance Group Specialty Listings

Specialty Tracks through the Biopharmaceutical Regulatory Compliance Group
o Biopharmaceutical Regulatory Compliance
o Healthcare Risk Management
o Forensic Pharmacy
o Healthcare Policy Analysis
o Biopharmaceutical Product Representation
o Clinical Research Administration
o Patient Safety Systems
o Healthcare Security Systems
o Healthcare Ethics & Equity

Health Institution Leadership Group Specialty Listings

Specialty Tracks through the Health Institution Leadership Group
o Health Institution Leadership
o Health Economics & Outcomes
o Healthcare Quality & Improvement
o Rural Healthcare Coordination
o Geriatric Care Systems
o Healthcare Entrepreneurism
o Healthcare Financing
o Health Information Technology
o Healthcare Writing and Reporting

Biopharmaceutical Regulatory Compliance Group

MS-HSA Curriculum

The following table provides a list of the core courses requried for all tracks.

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4

- PHCY 5046 - Health Services Administration Seminar1 Credits: 1
- PHCY 5041 - Health Services Administration Research Methods Credits: 2

Sub-Total Program Required Coursework: 15 credit hours

Biopharmaceutical Regulation & Compliance Track

The following tables provides a list of required courses for the track listed

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2
- PHCY 5243 - The Drug Enforcement Administration Credits: 2
- PHCY 5244 - State Regulations of Health Professions Credits: 2

Specialty Track Electives (choose 6 hours)

Healthcare Risk Management Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5670 - Medication Malpractice Credits: 2
- PHCY 5240 - Pharmaceutical Homicide Credits: 2

Specialty Track Electives (Choose 6 hours)

Forensic Pharmacy Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5240 - Pharmaceutical Homicide Credits: 2

PHCY 5XXX The Chemistry of Poisonings 2 Credits
PHCY 5XXX The Process of Forensic Science 2 Credits
Specialty Track Electives (choose 6 hours)

Healthcare Policy Analysis Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5047 - Pandemic Preparedness Policy Credits: 2
- PHCY 5148 - Health Economics and Policy Credits: 2
- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5246 - Prescription Drug Costs Credits: 2

Specialty Track Electives (choose 6 hours)

Biopharmaceutical Product Representation Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3

Specialty Track Electives (choose 6 hours)

Clinical Research Administration Track

Specialty Track Required Coursework (10 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5242 - The Food and Drug Administration Credits: 2

PHCY 5XXX Biomedical Ethics 3 Credits
PHCY 5XXX Clinical Research Regulation 2 Credits
Specialty Track Electives (choose 5 hours from list)

Patient Safety Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Security Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

PHCY 5XXX Cybersecurity 2 Credits
PHCY 5XXX HIPPA Compliance 2 Credits
PHCY 5XXX Disaster Management 2 Credits

Specialty Track Electives (choose 6 hours)

Healthcare Ethics & Equity Track

Specialty Track Required Coursework (10 Credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3

PHCY 5XXX Biomedical Ethics 3 Credits
PHCY 5XXX HIPAA Compliance 2 Credits
PHCY 5XXX Clinical Research Regulation 2 Credits
Specialty Track Electives (choose 5 hours)

Health Institution Leadership Group

MS-HSA Curriculum

The following table provides a list of the core courses required for all tracks

- PHCY 5040 - The Evolution of American Health Credits: 2
- PHCY 5041 - Health Services Administration Research Methods Credits: 2
- PHCY 5042 - Statistics for Health Services Credits: 3
- PHCY 5043 - Empirical Analysis for Health Services Administration Credits: 3
- PHCY 5045 - Health Services Administration Applied Research Credits: 1-4
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1

Sub-Total Program Required Coursework: 15 Hours

Health Institution Leadership Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5442 - Healthcare Financial Planning Credits: 2
- PHCY 5443 - Healthcare Human Capital Plan Credits: 2
- PHCY 5444 - Healthcare Strategic Innovation Credits: 2

Specialty Track Electives (choose 6 hours)

Health Economics and Outcomes

Specialty Track Required Coursework (10 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5142 - Health Economic Decision Analysis Credits: 2
- PHCY 5143 - Comparative Effectiveness Research Credits: 2
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (Choose 5 hours)

Healthcare Quality & Outcomes Track

Specialty Track Required Coursework (8 credit hours)

- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5342 - Healthcare Risk and Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 7 hours)

Rural Healthcare Coordination Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Geriatric Care Systems Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5341 - Principles of Healthcare Quality Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Entrepreneurism Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3

Specialty Track Electives (choose 6 hours)

Healthcare Financing Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5141 - Principles of Health Econ and Outcomes Credits: 3
- PHCY 5441 - Introduction to Health Leadership Credits: 3
- PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production Credits: 3

Specialty Track Electives (choose 6 hours)

Health Information Technology Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

PHCY 5XXX Information Design and Analysis 2 Credits
PHCY 5XXX Healthcare Information Systems 2 Credits
PHCY 5XXX Information Managment 2 Credits
Specialty Track Electives (choose 6 hours from list)

Healthcare Writing & Reporting Track

Specialty Track Required Coursework (9 credit hours)

- PHCY 5441 - Introduction to Health Leadership Credits: 3

PHCY 5XXX Professional Writing in Healthcare 2 Credits
PHCY 5XXX Health Data in Figures, Tables & Graphs 2 Credits
PHCY 5XXX The Healthcare Message 2 Credits
Specialty Track Electives (choose 6 hours)

Additional Notes

NOTE: Specialty track electives can be any course provided in the MSHSA program.

Please consult with the program director if you have questions on the electives to choose for a specific track.

Those course numbers with PHCYXXXX are currently being built or waiting on approval from the University. Please contact the MS HSA program for questions.

Kinesiology and Health Distance Education, M.S.

Master of Science Distance Education Program is designed for teachers, coaches, and other health professionals to fit into their busy schedules. Students can complete the Master of Science degree via synchronous or online modalities in a three, four, or five year period of time.

Plan B (Paper)

General Information

Teachers of health and physical education typically teach throughout the day and coach during the evenings and weekends. Therefore, traditional on campus Master's degree programs that require students to attend the University of Wyoming in Laramie are often simply impossible for teachers and other health professionals to fit into their busy schedule.

The Division of Kinesiology and Health offers the Master of Science degree in Kinesiology and Health as an off-campus, distance education program. All courses are delivered via synchronous or online modalities. The distance education program is designed such that you can complete the Master of Science degree in a three, four, or five year period of time.

This program involves a minimum of thirty (30) total credit hours of coursework and a culminating paper or case study presentation (experiential learning option) that is

developed on a topic selected by the student in conjunction with her or his graduate faculty advisor. The process for composing the culminating paper or case study includes the development of a prospectus and final presentation of the paper or case study. Students who elect the experiential learning option will also be required to complete an internship or research experience. In addition to the nine (9) hours of general required courses, at least twelve (12) credit hours of other courses must be HLED and KIN courses.

General Required Courses (9 Credits)

[1] May substitute EDRE 5530

- KIN 5080 - Investigations in Kinesiology and Health Credits: 1-3 (3 credits required)
- KIN 5085 - Research Methods Credits: 3 [1]

- EDRE 5600 - Introduction to Quantitative Research Credits: 3

OR

- EDRE 5640 - Introduction to Qualitative Research Credits: 3

Kinesiology and Health Electives (15 Credits)

12 credits selected from the following KIN courses:

- KIN 5011 - Teacher Socialization in PE Credits: 3
- KIN 5014 - Teaching Tactics in Sport-Based Physical Education Credits: 3
- KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education Credits: 3
- KIN 5018 - Psychology of Teaching Physical Education Credits: 3
- KIN 5019 - Instructional Models for Physical Education Credits: 3
- KIN 5090 - Foundations of Coaching Credits: 3

Elective Courses (6 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Investigation in Kinesiology and Health: Maximum of 3 credit hours of Investigation in Kinesiology and Health (KIN 5080) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Thesis Research: No credit hours of Thesis Research (KIN 5960) may contribute to the Plan B Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097 /KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900 /KIN 5900) or KIN 5990 - Internship may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Exercise and Sport Science Emphasis, M.S.

Master of Science with Emphasis in Exercise and Sport Science is designed for students who want to pursue doctoral degrees and careers in exercise physiology, biomechanics, exercise and sport

psychology, motor learning and control, physical activity and lifespan development, etc.

Plan A (Thesis)

The Plan A option of the Master of Science degree in ESS is designed to prepare students for careers in one of the subdisciplines (e.g., exercise physiology, biomechanics, exercise and sport psychology, motor learning and control, physical activity and lifespan development, etc.).

All students complete a series of general required courses and a concentration of courses in their specific ESS subdiscipline. The ESS area of emphasis involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080; or EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Area of specialization will include three to five courses (9-15 hours) within the student's chosen ESS subdiscipline. Your

advisor will identify courses to be taken specific to the selected area of emphasis.

Elective Courses (Minimum 6 Credits)

- Students are encouraged to complete at least one of their elective course selections from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.

- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (KIN 5900) or Internship (KIN 5990) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Health Emphasis, M.S.

Master of Science with Emphasis in Health is designed to prepare students for careers in public and community health settings.

Plan A (Thesis)

The Plan A option of the Master of Science degree in the area of HLED is designed to prepare students for careers in public and community health settings. All students complete a series of general required courses and a concentration of courses in the area of HLED.

The HLED area of emphasis involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least twelve (12) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070 or STAT 5080 ,EDRE 5640 or EDRE 5660. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3
- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Coursework will include three to five courses (9-15 hours). Your advisor will identify courses to be taken.

Elective Courses (Minimum 6 Credits)

- Students are encouraged to complete at least one of their elective course selections from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 21 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, M.S.

Master of Science, Plan B, is designed for students who are seeking a terminal degree in Kinesiology and Health. This option is not designed for students seeking to pursue a doctoral degree at the completion of the Master of Science degree.

Plan B (Paper and Experiential Learning Option)

The Plan B option of the Master of Science degree in Kinesiology and Health is designed to prepare students who are seeking a terminal degree. This option is not designed for students seeking to pursue a doctoral degree at the completion of the Master of Science degree in Kinesiology and Health.

This program involves a minimum of thirty (30) total credit hours of coursework and a culminating paper or case study presentation (experiential learning option) that is developed on a topic selected by the student in conjunction with her or his graduate faculty advisor. The process for composing the culminating paper or case study includes the development of a prospectus and final presentation of the paper or case study. Students who elect the experiential learning option will also be required to complete an internship or research experience. In addition to the nine (9) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (9 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080 , EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5080 - Investigations in Kinesiology and Health Credits: 1-3 (3 credits required)
- KIN 5085 - Research Methods Credits: 3
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 [1]

Specialized Required Courses (9-15 Credits)

- Area of specialization will include three to five courses (9-15 hours) within the student's chosen ESS subdiscipline. Your advisor will identify courses to be taken specific to the selected area of emphasis.

Elective Courses (Minimum of 6 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Investigation in Kinesiology and Health: Maximum of 3 credit hours of Investigation in Kinesiology and Health (KIN 5080) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Thesis Research: No credit hours of Thesis Research (KIN 5960) may contribute to the Plan B Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097 /KIN 5097) or Special Problems (HLED 5587/KIN 5587) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Practicum/Internship Coursework: Maximum of 3-credit hours of Practicum in College Teaching (HLED 5900 /KIN 5900) or KIN 5990 - Internship may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 24 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Kinesiology and Health, Physical Education Teacher Education Emphasis, M.S.

Master of Science with Emphasis in Physical Education Teacher Education is designed for teachers who have attained their licensure for teaching physical education and want to pursue an advanced degree to further develop their professional knowledge of teaching.

Plan A (Thesis)

The Plan A option of the Master of Science degree in the area of PETE is for teachers who have attained their licensure for teaching physical education and want to pursue an advanced degree to further develop their professional knowledge of teaching.

The PETE program of studies involves a minimum of thirty (30) total credit hours of coursework, a thesis, and a final oral examination. In addition to the ten (10) hours of general required courses, at least fifteen (15) credit hours of other courses must be HLED and KIN courses.

General Required Courses (10 Credits)

[1] May substitute STAT 5060, STAT 5070, STAT 5080; or EDRE 5600 or EDRE 5640. Decision made in conjunction with the advisor.

- Two semesters of KIN 5588 - Kinesiology and Health Intellectual Seminar Credits: 0
- KIN 5085 - Research Methods Credits: 3 or EDRE 5530 - Introduction To Research Credits: 3.

- KIN 5960 - Thesis Research Credits: 1-12 (4 credits required)
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3 or EDRE 5550 - Action Research Credits: 3. [1]

Specialized Required Courses

(12 Credits Selected from The Following KIN Courses)

- KIN 5011 - Teacher Socialization in PE Credits: 3
- KIN 5014 - Teaching Tactics in Sport-Based Physical Education Credits: 3
- KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education Credits: 3
- KIN 5018 - Psychology of Teaching Physical Education Credits: 3
- KIN 5019 - Instructional Models for Physical Education Credits: 3
- KIN 5090 - Foundations of Coaching Credits: 3

Elective Courses (Minimum 8 Credits)

- Students are encouraged to complete at least one course from outside the Division of Kinesiology and Health. All elective course decisions must be made in conjunction with your advisor.

Notes about Coursework:

- Thesis Research: Maximum of 4 credit hours of Thesis Research (KIN 5960) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- Investigations in Kinesiology and Health: No credit hours of Investigations in Kinesiology and Health (KIN 5080) may contribute to the Plan A (Thesis) Degree Program.
- Independent Study Coursework: Maximum of 3-credit hours of Individual Problems (HLED 5097/KIN 5097) or Special Problems (HLED 5587/HLED 5587) may contribute to the 25 credit hours from

the Division of Kinesiology and Health and the 30 total credit hours.

- Practicum/Internship Coursework: Maximum of 3-credit hours of KIN 5900 - Practicum in College Teaching or KIN 5990 - Internship may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.
- 4000 Level Coursework: Maximum of two 4000 level courses (3 or 4 credit hours each) may contribute to the 25 credit hours from the Division of Kinesiology and Health and the 30 total credit hours.

Nursing, D.N.P., Family Nurse Practitioner Concentration

The Family Nurse Practitioner (FMY) concentration prepares advanced practice nurses to provide primary health care to diverse individuals and their families in a variety of outpatient settings, especially rural settings. This degree requires 75 graduate credits.

DNP Core Courses

- NURS 5140 - Pharmacotherapy for Primary Care Credits: 4
- NURS 5165 - DNP: Adv Pathophysiology Credits: 3
- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3

- NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness Credits: 3
- NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners Credits: 3
- NURS 5830 - Health Behavior Change II: Behavioral Skills for Secondary and Tertiary Prevention Credits: 3
- NURS 5865 - DNP Seminar Credits: 1
- NURS 5866 - DNP Seminar II Credits: 1
- NURS 5891 - Doctor of Nursing Project I Credits: 1
- NURS 5892 - Doctor of Nursing Project II Credits: 3
- NURS 5893 - Doctor of Nursing Project III Credits: 1
- NURS 5894 - Doctor of Nursing Project IV Credits: 2

Family Nurse Practitioner Specialty Courses

- NURS 5825 - Advanced Health Assessment and Clinical Decision-Making for Family Nurse Practitioners Credits: 4
- NURS 5827 - Skills for Family NP Credits: 3
- NURS 5871 - Wellness for Adults in Primary Care Credits: 3
- NURS 5872 - Practicum for Wellness in Primary Care Credits: 3
- NURS 5873 - Primary Care for Children, Adolescents, and Families Credits: 3
- NURS 5874 - Practicum for Primary Care for Children, Adolescents, and Families Credits: 3
- NURS 5875 - Primary Care for Acute & Chronically Ill Adults Credits: 3
- NURS 5876 - Practicum for Primary Care for Acute & Chronically Ill Adults Credits: 3
- NURS 5877 - Primary Care for Acute & Chronically Ill Adults II Credits: 3

Additional Requirements

Expected Student Learning Outcomes

Graduates will:

- engage in evidence-based practice to optimize health outcomes; and
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed

through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the DNP Program by the application deadline to be considered for fall admission *(the entire DNP application process is completed online).* The applicant is responsible to make certain that UW is in receipt of all application materials/ fees. The number of students admitted is limited. Admission is a competitive process and applicants meeting minimum requirements are not guaranteed admission to the program. Admission to the university does not guarantee admission to the DNP program in the School of Nursing.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, Admission Criteria & Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the DNP Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All DNP students, regardless of concentration will take a set of core courses. In addition to the core courses a group of specialty courses are required for each NP concentration. Students earning the DNP degree will complete a final scholarly

project which is integrated into the FMY and PSH curricula.

The DNP core and clinical courses will be delivered using a combination of online courses; synchronous video web-conferencing, and hybrid courses with periodic intensive on-campus experiences. Clinical placements will be arranged at health care facilities in Wyoming, north central Colorado, or southern Montana.

Program of Study

A detailed, semester sequenced DNP-FMY Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP-FMY Program of Study)*.

Nursing, D.N.P., Psychiatric Mental Health Nurse Practitioner Concentration

The Psychiatric Mental Health Nurse Practitioner (PSH) concentration prepares advanced practice nurses to provide a full range of psychiatric care. Graduates are prepared to assess, diagnose, and manage, to include prescribing psychotropic medications, for people with chronic and acute psychiatric disorders. This degree requires 73 graduate credits.

DNP Core Courses

- NURS 5140 - Pharmacotherapy for Primary Care Credits: 4
- NURS 5165 - DNP: Adv Pathophysiology Credits: 3
- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3

- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness Credits: 3
- NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners Credits: 3
- NURS 5830 - Health Behavior Change II: Behavioral Skills for Secondary and Tertiary Prevention Credits: 3
- NURS 5865 - DNP Seminar Credits: 1
- NURS 5866 - DNP Seminar II Credits: 1
- NURS 5891 - Doctor of Nursing Project I Credits: 1
- NURS 5892 - Doctor of Nursing Project II Credits: 3
- NURS 5893 - Doctor of Nursing Project III Credits: 1
- NURS 5894 - Doctor of Nursing Project IV Credits: 2

Psychiatric Mental Health Nurse Practitioner Specialty Courses

- NURS 5826 - Advanced Health Assessment for Psych NPs Credits: 2
- NURS 5828 - Skills for Psychiatric Mental Health Nurse Practitioners Credits: 2
- NURS 5862 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP I Credits: 5
- NURS 5863 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP II Credits: 5
- NURS 5864 - Final PSH Practicum Credits: 6
- NURS 5880 - Neurobiology & Psychopharm Credits: 4

- NURS 5881 - Psychotherapy Models and Theories for Advanced Practice Mental Health Nursing Credits: 3
- NURS 5882 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Adult, Older Adult, and Vulnerable Populations Credits: 4
- NURS 5883 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Child and Adolescent Credits: 4

Additional Requirements

Expected Student Learning Outcomes

Graduates will:

- engage in evidence-based practice to optimize health outcomes;
- engage in leadership activities to promote excellence in rural health care.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the DNP Program by the application deadline to be considered for fall admission *(the entire DNP application process is completed online).* The applicant is responsible to make certain that UW is in receipt of all application materials/ fees. The number of students admitted is limited. Admission is a competitive process and applicants meeting minimum requirements are not guaranteed admission to the program. Admission to the university does not guarantee admission to the DNP program in the School of Nursing.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, Admission Criteria & Application)*.

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic

requirements for the DNP Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All DNP students, regardless of concentration will take a set of core courses. In addition to the core courses a group of specialty courses are required for each NP concentration. Students earning the DNP degree will complete a final scholarly project which is integrated into the FMY and PSH curricula.

The DNP core and clinical courses will be delivered using a combination of online courses; synchronous video web-conferencing, and hybrid courses with periodic intensive on-campus experiences. Clinical placements will be arranged at health care facilities in Wyoming, north central Colorado, or southern Montana.

Program of Study

A detailed, semester sequenced DNP-PSH Program of Study can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, DNP, DNP-PSH Program of Study)*.

Nursing, M.S., Nurse Educator/Nurse Leader Concentrations

The MS program is a part-time, online degree open to registered nurses with a minimum of a baccalaureate degree in nursing from a program nationally accredited by CCNE or NLNAC. The MS program has two concentrations: 1) Nurse Educator (NE) and 2) Nurse Leader (NL). This degree requires 30 graduate credits.

MS Core Courses

- NURS 5601 - Theoretical Foundations of Advanced Nursing Practice Credits: 3
- NURS 5602 - Advanced Nursing Leadership Credits: 3
- NURS 5603 - Evidence-based Practice for Advanced Nursing Credits: 3
- NURS 5604 - Population and Health Policies Credits: 3
- NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice Credits: 3
- NURS 5472 - Integrated Advanced Pathophysiology, Pharmacology, and Assessment Credits: 3
- NURS 5473 - Advancing Healthcare Transform Credits: 3
- NURS 5483 - Practicum: Rural Healthcare Leadership Credits: 3
- PHCY 5046 - Health Services Administration Seminar1 Credits: 1

Nurse Educator Specialty Courses

- NURS 5452 - Curriculum Development Credits: 3
- NURS 5462 - Teaching Methodologies and Evaluation Credits: 3

Nurse Leader Specialty Courses

- NURS 5420 - Leadership Within Health Care Systems Credits: 3
- NURS 5461 - Business of Healthcare Credits: 3

Additional Requirements

Expected Student Learning Outcomes

M.S. Graduate are prepared to ensure better care, better health, and lower costs through their knowledge, skills, and abilities to:

- Demonstrate competence and caring in the advanced professional nurse role to serve Wyoming, the region, and the world in urban, rural, and frontier health care settings as a provider, leader, and/or educator in the health care system.
- Transform rural health through leadership, service, and clinical scholarship that reflects an interconnected and comprehensive global health perspective.
- Demonstrate an advanced understanding of nursing and other sciences and humanities and integrates this knowledge to manage and improve health care across settings
- Synthesize broad organizational, financial, economic, client-centered, and culturally appropriate concepts from nursing and other sciences to address population health.
- Engage in scholarly inquiry and evidence-based practice to lead change for quality outcomes and implement safe health care to diverse populations in a variety of settings.

Core Concepts:

- Transformation**:**

Transformation includes learning, education, leadership, and nursing as a whole; engaging creativity with theory and evidence-based practice to result in critical reflection and cognitive flexibility.

- Rurality/Frontier

Practice in a low population area where resources and/or access to care are limited and be able to innovate accordingly.

- Service

Providing advanced practice nursing care and services to individuals, families, groups, communities, and populations includes altruism, leadership, decision-making, cooperation, education, listening, problem-solving, person-centered care, fidelity, advocacy, ethical behavior, and practice.

- Comprehensive Global healthcare system perspective

An interconnected and comprehensive global health care system perspective

incorporating the following attributes: advocacy, altruism, creativity, ethical conduct, effective communication skills, leadership, problem-solving skills, professionalism, and scholarship.

- Clinical Scholarship

Activities that systematically advance nursing science, including its teaching, research, and practice through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods and includes discovery, teaching, practice, and integration.

Admission

The University of Wyoming must receive complete application materials for the MS Program by the application deadline to be considered for fall admission (*the entire MS application process is completed online*). The applicant is responsible to make certain that UW is in receipt of all application materials/fees.

Criteria for admission as well as application instructions and deadlines can be found on the nursing website: www.uwyo.edu/nursing (*click on Nursing Programs, MS, Admission Criteria/Application*).

Scholastic Requirements

University and College of Health Sciences policies governing scholastic requirements (e.g. major changes, probation and dismissal) apply to students enrolled in the School of Nursing. In addition to university/college requirements, the School of Nursing has further scholastic requirements for the MS Program. These requirements can be found on the nursing website: www.uwyo.edu/nursing *(click on Nursing Programs, MS, MS Program Student Handbook - section 6 Scholastic Requirements)*.

Curriculum

All MS students, regardless of concentration will take a set of core courses. In addition to the core courses, a group of specialty courses are required for each MS concentration.

Program of Study

A detailed, semester sequenced MS Program of Study can be found on the nursing website: www.uwyo.edu/nursing (*click on Nursing Programs, MS, MS Program of Study*).

Pharmacy, Pharm.D.

The School of Pharmacy offers a four-year curriculum leading to the Doctor of Pharmacy (Pharm.D.) degree. Students admitted to the Pharm.D. program follow a four-year program of study leading to the Doctor of Pharmacy Degree. Students complete a total of 146 hours.

In order to keep abreast with changes in pharmaceutical education, the following curriculum is subject to change or modification as required by the accrediting agency. Students should be aware that changes must be expected, and they will be included in their academic program. The School of Pharmacy does not plan to change graduation requirements inadvertently, but does reserve the right to change any provisions or requirement deemed necessary at any time within the student's term of residence.

Required Curriculum

- ZOO 4125 - Integrative Physiology Credits: 5
- PHCY 6100 - Dose Form Design Credits: 4
- PHCY 6102 - Biopharmaceutics and Pharmacokinetics Credits: 4

- PHCY 6106 - Pharmaceutical Calculations Credits: 2
- PHCY 6110 - Medicinal and Natural Products Chemistry I Credits: 3
- PHCY 6140 - Introduction to Social Administrative Pharmacy Credits: 3
- PHCY 6160 - Pharmacist Skills I Credits: 1
- PHCY 6111 - Medicinal and Natural Products Chemistry II Credits: 3
- PHCY 6120 - Advanced Pathophysiology Credits: 4
- PHCY 6151 - Pharmacy Practice Credits: 2
- PHCY 6152 - Therapeutics I Credits: 3
- PHCY 6161 - Pharmacist Skills II Credits: 1
- PHCY 6170 - Introductory Pharmacy Practice Experience-IPPE1 Credits: 1
- PHCY 6480 - Introduction to Community Pharmacy Practice Credits: 4
- PHCY 6482 - Introduction to Hospital Pharmacy Practice Credits: 4
- PHCY 6215 - Medicinal and Natural Products Chemistry III Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- PHCY 6230 - Pharmacology I Discussion Credits: 0
- PHCY 6240 - Research and Evaluation Methods in Pharmacy Credits: 3
- PHCY 6260 - Pharmacist Skills III Credits: 1
- PHCY 6231 - Pharmacology II Credits: 4
- PHCY 6231 - Pharmacology II Discussion Credits: 0
- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6246 - Pharmacy Management, Marketing and Finance Credits: 3
- PHCY 6251 - Therapeutics II Credits: 3
- PHCY 6261 - Pharmacist Skills IV Credits: 2
- PHCY 6270 - Introductory Pharmacy Practice Experience 2 - IPPE2 Credits: 1

- PHCY 6312 - Clinical Toxicology Credits: 3
- PHCY 6341 - Pharmacy Practice Law Credits: 3
- PHCY 6344 - Pharmacy Ethics Credits: 1
- PHCY 6350 - Therapeutics III Credits: 4
- PHCY 6357 - Clinical Pharmacokinetics Credits: 2
- PHCY 6360 - Pharmacist Skills V Credits: 1
- PHCY 6370 - Introductory Pharmacy Practice Experience 3 - IPPE3 Credits: 2
- PHCY 6300 - Sterile Products Credits: 2
- PHCY 6301 - Sterile Products Laboratory Credits: 1
- PHCY 6340 - Health Care Policy and Advocacy Credits: 2
- PHCY 6351 - Therapeutics IV Credits: 4
- PHCY 6353 - Drug Literature Application Credits: 2
- PHCY 6361 - Pharmacist Skills VI Credits: 2
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4

- PHCY 6471 - Internal Medicine II Credits: 4

OR

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- PHCY 6465 - Elective Rotation In: Credits: 4

Students complete 4 sections of PHCY 6465, 4 credits each.

- Students complete 7 hours of electives during the P1-P3 year.
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

Students complete 3 sections of PHCY 6485, 1 credits each.

COM 3 Requirement

- PHCY 6245 - Patient/Professional Interactions Credits: 3
- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6485 - Reflective Learning in Pharmacy Credits: 1

    Students complete 3 sections of PHCY 6485, 1 credits each.

Total Hours 146

Fourth Year [PH4]:

Consists of nine experiential rotations of four credit hours each and three reflective learning weeks. Rotations are considered full-time. Students may not enroll in any other coursework concurrent with rotations. Students enrolled in the MSHSA/PharmD are allowed to enroll in master's coursework during the fourth year. Consequently, all other coursework (107 credits) must be satisfactorily completed before enrollment in P4 coursework. Note: Students will be required to live in locations other than Laramie when enrolled in experiential rotations. Responsibility for living costs and travel arrangements associated with experiential rotations rests with the student. Students participating in all experiential activities will be required to have a vehicle or an acceptable, approved alternative.

Students must complete the following Core or Required Experiential Rotations (subject to change):

- PHCY 6470 - Internal Medicine I Credits: 4
- PHCY 6473 - Ambulatory Pharmaceutical Care Credits: 4
- PHCY 6481 - Advanced Community Pharmacy Credits: 4
- PHCY 6483 - Advanced Institutional Pharmacy Credits: 4
- Plus 4 Elective Rotations (PHCY 6465)

Students need to take one:

- PHCY 6471 - Internal Medicine II Credits: 4

or

- PHCY 6474 - Ambulatory Pharmacy Care II Credits: 4

Social Work, M.S.W.

Division of Social Work offers an MSW with a concentration in **advanced generalist social work practice**. The Standard Program is for non-BSW graduates; Advanced Standing Program is for students with a BSW. Part-time program available.

MSW Standard Program

- SOWK 5100 - Principles and Philosophy of Social Work Credits: 3
- SOWK 5115 - Social Welfare Policy: Human Rights and Social Justice Credits: 3
- SOWK 5120 - MSW Foundation Field Seminar I Credits: 1
- SOWK 5121 - MSW Foundation Field Seminar II Credits: 1
- SOWK 5200 - Human Beh & Soc Environmt I Credits: 3
- SOWK 5210 - Human Behavior and the Social Environment II Credits: 3
- SOWK 5300 - SW Generalist Practice I Credits: 3
- SOWK 5310 - Generalist Social Work Practice II Credits: 3
- SOWK 5400 - Social Work Generalist Research Methods Credits: 3
- SOWK 5450 - Field Practicum I Credits: 3
- SOWK 5460 - Field Practicum II Credits: 5
- SOWK 5500 - Advanced Policy: Advocacy and Social Action Credits: 3
- SOWK 5600 - Advanced Generalist Practice Credits: 3
- SOWK 5700 - Advanced Theories and Practice with Children and Families Credits: 3
- SOWK 5705 - Advanced Generalist Practice 3 Credits: 3

- SOWK 5720 - Leadership Prac in Comm & Orgs Credits: 3
- SOWK 5750 - Applied Research: Practice Evaluation Credits: 3
- SOWK 5850 - Advanced Field Practicum Credits: 2-10
- SOWK 5855 - MSW Advanced Field Seminar I Credits: 1
- SOWK 5856 - MSW Advanced Field Seminar II Credits: 1-8
- SOWK 5000 - Topics: Social Work Credits: 1-3
- SOWK 5755 - MSW Portfolio Credits: 1

OR

- SOWK 5960 - Thesis Research Credits: 1-12

TOTAL: 66-68 credits

NOTES

- **MSW Standard students must take one social work elective (3 credits) at any time during their program. The elective must be at the 5000 level.**

MSW Advanced Standing Program

- SOWK 5495 - Social Work Research and Analysis Credits: 3
- SOWK 5499 - Advanced Generalist Social Justice Practice Credits: 3
- SOWK 5500 - Advanced Policy: Advocacy and Social Action Credits: 3
- SOWK 5600 - Advanced Generalist Practice Credits: 3
- SOWK 5700 - Advanced Theories and Practice with Children and Families Credits: 3
- SOWK 5705 - Advanced Generalist Practice 3 Credits: 3
- SOWK 5720 - Leadership Prac in Comm & Orgs Credits: 3
- SOWK 5850 - Advanced Field Practicum Credits: 2-10
- SOWK 5855 - MSW Advanced Field Seminar I Credits: 1
- SOWK 5856 - MSW Advanced Field Seminar II Credits: 1-8

- SOWK 5000 - Topics: Social Work Credits: 1-3
(3 credits)
- SOWK 5755 - MSW Portfolio Credits: 1
OR
- SOWK 5960 - Thesis Research Credits: 1-12 (4 credits required total)
TOTAL: 38-40 Credits

NOTES

- **The program can be completed on a full-time or part-time basis. Students must be admitted to a specific program option: full-time or part-time.**
- **MSW advanced students must take one social work elective (3 credits). The electives must be at the 5000 level.**

Speech-Language Pathology, M.S.

The Master's in Speech-Language Pathology (MS-SLP) is a full-time, two-year degree program consisting of ≈ 61 semester hours (SCH) of graduate study. The program is delivered in six consecutive semesters with full-time fall, spring and summer enrollment required. The program is classified as a residential program according to the criteria established by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA). This program incorporates a distance education component, involving one semester of online coursework and off-site clinical practicum, known as "community placement," completed during the fall semester of the second year.

Students in the MS-SLP program dedicate their "first year" (three semesters) to on-campus studies and clinical practicum at the University of Wyoming in Laramie. The "second year" (three semesters) consists of off-campus components, with students engaging in distance education coursework and clinical practicum during the fall. Full-time externships are undertaken in the spring and summer of the second year. While off-

site clinical placements can be located anywhere in the United States, it's important to note that students are matched to clinical sites by the Speech Clinic Director, and existing agreements must be in place prior to students beginning their placements.

Accreditation

The Master's of Science (MS) education program in speech-language pathology {residential} at the University of Wyoming is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700.

Eligibility for Certification and Licensure

The Master of Science in Speech-Language Pathology is a professional degree program that leads to eligibility for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP), granted by the Council for Clinical Certification in Audiology and Speech-Language-Pathology (CFCC), which is a council serving the American Speech-Language Hearing Association. A supervised Clinical Fellowship (CF) is required beyond the graduate degree for certification. Graduates are also eligible for the Wyoming license in speech-language pathology.

Typical Programs of Study

There are two programs of study for the MS SLP program. Plan A is the thesis option (64-credit hour program), and Plan B is the non-thesis option (61-credit hour program). The Plan A (thesis) option requires 34 credits of graduate academic work, 4 credits of SPPA 5960 Thesis Research, and 26 credits of graduate clinical practicum. The Plan B (non-thesis) option requires 34 credits of graduate academic work , 1 credit of research through SPPA 5961 Graduate Projects (Oral Comprehensive Exam), and 26 credits of graduate clinical practicum.

35-38 Hours of Graduate Academic Work and Research Usually Includes:

- SPPA 5020 - Phonological Assessment and Intervention Credits: 3
- SPPA 5140 - EBP and Evaluation Procedures in Communication Disorders Credits: 4
- SPPA 5280 - Early Language Intervention Credits: 3
- SPPA 5220 - Voice Disorders Credits: 3
- SPPA 5130 - Adult Neurogenic Disorders Credits: 3
- SPPA 5330 - School-Age Language Intervention Credits: 3
- SPPA 5120 - Stuttering Credits: 2
- SPPA 5110 - Craniofacial Disorders Credits: 2
- SPPA 5230 - Dysphagia Credits: 3
- SPPA 5100 - Motor Speech Disorders Credits: 3
- SPPA 5210 - Augmentative and Alternative Communication Credits: 2
- SPPA 5380 - Professional Practice Credits: 3
- Plan A students complete 4 credits of SPPA 5960 - Thesis Research Credits: 1-12
- Plan B students complete 1 credit of SPPA 5961 - Graduate Projects Credits: 1-4

26 Hours of Graduate Clinical Practicum Include:

- SPPA 5030 - Clinical Practicum Credits: 1-4
  (14 credits total required)
- SPPA 5270 - Educational Practicum Credits: 1-12
  (6 credits total required)
- SPPA 5290 - Medical Practicum Credits: 1-12
  (6 credits total required)

Note:

Note: Specific degree requirements (course name and content), may change based on departmental decisions or requirement changes from accreditation and licensure bodies.

Additional Information

Admissions to the M.S. Degree Program in Speech-Language Pathology

Admission to the master's program in speech-language pathology is made on a competitive basis. We accept students to start in the fall of each year. For application, admission, and a description of the program, see the division website. Applicants must have completed a bachelor's degree or equivalent from a regionally accredited institution. All applicants should have at least a 3.000 cumulative GPA (scale of 4.000).

Additional required undergraduate coursework and discipline specific coursework

Admitted students must also have taken required coursework in the 4 Foundational Areas (Biological Sciences, Physical Sciences, Social/Behavioral Sciences, and Statistics). For the UW M.S. SLP program, admitted students must also have completed coursework in phonetics; speech & language development; anatomy and physiology of speech, hearing, and swallowing; audiology; neural basis of communication; and aural rehabilitation. Coursework in each of these areas is needed in order to meet the requirements of the Council for Clinical Certification in Audiology and Speech-Language-Pathology (CFCC) certification

requirements and/or in order to graduate from the UW MS SLP program. Students missing any of these courses must complete requirements in order to be considered eligible for the M.S. in SLP degree.

Applications to our master's program must be made through an electronic, centralized application service: the Communication Sciences and Disorders Centralized Application Service for Clinical Education in Audiology and Speech Language Pathology (CSDCAS). Instructions and application procedures are available at https://csdcas.liaisoncas.org/. Check the division web site in September for instructions.

Applicants will be notified of the division's decision on acceptance, alternate, or denial by mid-March. Applicants must respond to the offer by April 15. Alternates may be offered positions that become available after April 15.

International Students

For all International students, the university must determine whether financial resources are sufficient for study here. More information can be found on the UW International Students webpage.

English Language Proficiency

All applicants, regardless of citizenship, who do not possess a bachelor's degree from a post-secondary institution where English is the principal language must satisfy the English language proficiency requirement. The University of Wyoming and MS SLP program accept several English proficiency exams, including the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) exam, Duolingo, or Cambridge English score report. Score requirements for English proficiency exams are: TOEFL (540 or 76 minimum for iBT), IELTS (6.5 minimum), Duolingo (110), and Cambridge English B2

First, C1 Advanced or C2 Proficiency (176 minimum). The MS SLP program does not accept other options for satisfying the English proficiency admissions requirement. Official scores must be received by CSDCAS by January 15th.

Conditional Status

An applicant may be admitted conditionally if he or she does not meet the GPA requirements for full admission, and the Division determines that there are sufficient areas of strength for success in graduate school in comparison to other applicants. Conditions will be placed on admission such as graduate grade point average, performance criteria, or completion of certain courses.

Requirements Following Offer of Admission

Students who accept an offer of admission to the program must then provide numerous pieces of required documentation for admission to UW and program and will also need to be responsive to emails from the Division and faculty throughout onboarding.

Criminal Background Check

Admission to the graduate program in speech-language pathology is contingent upon passing a criminal background check. Each student recommended for admission into the program will be required to obtain, pay, and pass a criminal background check. Additional background checks are routinely required by schools, hospitals, and other agencies that participate in the clinical education of our students. The results of the background checks may determine admission and/or ability to complete the UW M.S. SLP program. Please see the College

of Health Sciences web site for the policy and procedures document.

Vaccination Requirements

Students' admission to our program is contingent on verification of vaccinations. Students must submit MMR immunization to UW's Student Health Services. Students also must submit COVID-19 vaccination status, because that information is required for Centers for Medicare & Medicaid Services as part of the UW Speech & Hearing Clinic's billing for patients to that agency. Students should also know that external clinical placements often require updated background checks and have their own processes and guidelines for vaccination documents and requirements, these sites are not bound to the University of Wyoming determinations.

Graduate Student Outcome Data

As of September 2023, 98.08% of MS SLP students completed the program "on time" over the last three years at time of calculation, 100% obtained employment, and the reported Praxis Exam pass rate was 100%.

Program Specific Graduate Assistantships

Financial assistance for graduate students is available each year through the Division with assistantships and other funding. Typically, graduate assistantships include one-half tuition support and a monthly stipend. These assistantships require the student to spend 10 hours per week assisting faculty members in teaching and research. Graduate Assistantships and scholarship awards are competitive and based on past academic performance, evidence of

professional promise, and letters of recommendation.

Differential Tuition

The graduate program in speech-language pathology has a differential tuition rate. See the Division website and/or fee book for details.

WWAMI Medical Education

The WWAMI Med Ed Program is Wyoming's medical school. Through the University of Washington School of Medicine, foundation phase is in Laramie at UW, clinical phase is in the WWAMI region.

Degree Requirements

Degree requires [70] foundation phase credits, all upper-division credits.

Required Courses

- HM 6710 - Fund. Medical Sci. & Research Credits: 9
- HM 6603 - Clinical Studies Credits: 2 (6 credits required)
- HM 6720 - Infection & Immunity Credits: 7
- HM 6730 - Cancer, Hormones & Blood1 Credits: 7
- HM 6740 - Muscles, Joints, Bones, & Skin Credits: 5
- HM 6602 - Introductory Primary and Continuity Care Clerkship Credits: 2 (4 credits required)
- HM 6750 - Cardiovascular System Credits: 5
- HM 6755 - Medicine, Health, & Society 1 Credits: 1
- HM 6760 - Respiration and Regulation Credits: 6
- HM 6770 - Head, Neck, & Gut Credits: 5

- HM 6775 - Medicine, Health, & Society 2 Credits: 3
- HM 6800 - Mind, Brain, & Behavior Credits: 7
- HM 6900 - Life Cycles and Reproduction Credits: 5

Total Hrs. 70

Certificate

American Sign Language Studies Certificate

Gain basic foundational skills in American Sign Language (ASL), understand sociocultural aspects of Deaf communities, teach other students the basics of ASL.

The American Sign Language Studies (ASL Studies) certificate provides a basic or beginning understanding of ASL and an introduction to Deaf sociocultural issues. The ASL Studies certificate may be helpful to anyone in the health and education fields in learning to communicate with and understand individuals who are Deaf. The certificate is a nominal recognition for students who wish to pursue more education in the fields of speech-language pathology, sign language interpreter, teacher of the deaf, preschool and K-12 education, audiology, nursing, counseling and other areas. The ASL Studies Certificate is not designed or adequate to meet educational requirements for any specific professional license or certification. The ASL Studies certificate from UW is a nominal recognition of basic or beginning ASL skills and Deaf culture. It does not prepare or entitle a student or recipient for any certification or licensure from any state or national associates, agencies or governmental bodies. For more information on the ASL Studies learning objectives, see the website: http://www.uwyo.edu/comdis/american-sign-language/index.html.

ASL Studies Certificate Requirements:

Students must have earned a grade of A for all three language courses (SPPA 2110, SPPA 2120, and SPPA 4130) in order to be eligible for the certificate. ASL coursework needs to have been completed within the last 5 years in order to pursue the ASL Studies Certificate, exceptions can be granted if the student demonstrated adequate skills during a structured interview with a UW ASL instructor.

Course sequence for the certificate, 16 credits total:

- SPPA 2110 - American Sign Language I Credits: 4
- SPPA 2120 - American Sign Language II Credits: 4
- SPPA 4070 - Deaf Studies Credits: 3
- SPPA 4130 - Advanced ASL Credits: 4
- SPPA 4140 - Undergraduate Teaching Assistant Credits: 1

Community and Public Health

This certificate covers foundational public health concepts, use of epidemiological data, designing evidence-based projects and community collaborations, and building public, political and financial support for public health.

Required Courses

Students must earn a B or better (an A or a B) in all four classes to earn the certificate.

- HLED 5021 - Creating Conditions for Community Health Credits: 3
- HLED 5022 - Unlocking the Potential of Public Health Credits: 3
- HLED 5023 - Using Epidemiology to Build Health Credits: 3
- HLED 5024 - Increasing Support for PH Credits: 3

Students may either earn a 12-credit *University Graduate Certificate in Community & Public Health* or a 15-credit *University Graduate Certificate in Community & Public Health, Specializing in [Specialization Name].*

Approved specialization courses include:

- HLED 5020 - Food, Health, and Justice Credits: 3
- HLED 5026 - Rural Community Health Credits: 3
- HLED 5027 - Emergency Prep and Response Credits: 3

Additional specialization courses may be approved by Community & Public Health faculty.

- HLED 5810 - Environmental Health Credits: 3

OR

- ENR 5810 - Environmental Health Credits: 3

Endorsement

Adapted Physical Education K-12 Endorsement

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for a K-12 endorsement in adapted physical education by completing the following course requirements:

Course Requirements

- EDEX 2484 - Introduction to Special Education Credits: 3
- KIN 4055 - Adapted Physical Education Credits: 2

- KIN 4065 - Resources in Adapted Physical Education Credits: 2-3
- KIN 4075 - Assessment in Adapted Physical Education Credits: 3

Athletic Coaching Endorsement/Permit

Students who wish to qualify for an athletic coaching endorsement/permit to coach in Wyoming public schools must complete CPR certification and three courses. Note: Endorsements are for current teachers. Permits are for those who are not a licensed educator.

Course Requirements

- CPR Certification
- KIN 3050 - Prevention and Care of Athletic Injuries Credits: 2
- Foundations of Coaching KIN 4090 /KIN 5090 Credits: 3
- Students completing the Physical Education Teacher Education undergraduate degree are exempt from the KIN 4090/5090 requirement.
- Coaching in... Experience (completed at a community college or complete a coaching experience in a specific sport for one season or more with a letter written by your supervising coach to submit with your PTSB endorsement application form).

School Health Education K-12 Endorsement (For non-Physical Education Teacher Education Majors)

In addition to completing a bachelor's degree in teaching at the secondary level from an approved university program, 21 credit hours are required to be endorsed to

teach health education grades K-12 in the public schools of Wyoming.

Course Requirements

- FCSC 1141 - Principles of Nutrition Credits: 3
- HLED 1006 - Personal Health Credits: 3
- CPR Certification
- HLED 4120 - Assessment in Health Credits: 3
- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

School Health Education K-12 Endorsement (For Physical Education Teacher Education Majors)

In addition to completing the Bachelor of Science degree in physical education teacher education from the University of Wyoming, students can qualify for a grades K-12 endorsement in health education by completing the following course requirements:

Course Requirements

- HLED 4025 - Teaching Sensitive Issues In Human Sexuality Credits: 3
- HLED 4110 - Teaching Health in Schools K-12 Credits: 3

- HLED 4120 - Assessment in Health Credits: 3
- HLED 4130 - Management of Coordinated School Health Programs Credits: 3
- PSYC 2210 - Drugs and Behavior Credits: 3

OR

- HLED 4030 - Substance Abuse/Suicide Prevention in Education Credits: 3

Preprofessional Program

Pre-Pharmacy Program (PPCY)

Students will not receive a degree in pre-pharmacy. The pre-pharmacy curriculum guides students as they fulfill requirements for admission to the Pharm.D. degree program.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3

- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Curriculum

- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1030 - General Chemistry II Credits: 4
- LIFE 1010 - General Biology Credits: 4
- MATH 2200 - Calculus I Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4
- CHEM 2420 - Organic Chemistry I Credits: 4
- CHEM 2440 - Organic Chemistry II Credits: 4
- KIN 2040 - Human Anatomy Credits: 3
- KIN 2041 - Human Anatomy Laboratory Credits: 1
- LIFE 3050 - Genetics Credits: 4
- MOLB 2021 - General Microbiology Credits: 4

OR

- MOLB 2240 - Medical Microbiology Credits: 4
- MOLB 3610 - Principles of Biochemistry Credits: 4
- ZOO 3115 - Human Systems Physiology Credits: 4
- General Electives (6 credits total)

School of Graduate Education Interdisciplinary Programs

Biomedical Sciences, Ph.D. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website http://www.uwyo.edu/biomedphd/
Email: bms@uwyo.edu

Program Director: Sreejayan Nair, Ph.D.

Degree Offered

Ph.D. in Biomedical Sciences

Biomedical sciences is the study of human biological processes; the complex interactions between physiological, genetic and environmental factors that influence disease and health. It spans the spectrum from fundamental discovery to innovation and application.

Areas of focus may include but not limited to cardiac health, nutrition, reproductive biology, toxicology, diagnostic & imaging and medical engineering.

The PhD program in biomedical sciences is designed to position graduates for long-term competitive success in the rapidly changing and multifaceted health-related arena in the 21st century. It is a comprehensive, interdisciplinary program, making connections between various disciplines to gain new insights, discover and apply new knowledge, and promote self-directed, life-long learning.

Biomedical Sciences is a research & discovery focused program balancing depth and breadth of content knowledge with "enabling" skills including problem solving, innovation, entrepreneurship, communication and leadership.

Program Specific Admission Requirements:

1. Minimum requirements. Applicants who do not meet the minimum requirements may be conditionally accepted at the discretion of the BMS Admission Committee. Please submit the application packet comprising the following documents for pre-admission screening:

a. Faculty sponsor. Contact potential biomedical sciences graduate program faculty sponsor in your area of interest prior to submitting an application. NOTE: a letter indicating the sponsorship by a faculty is strongly recommended as the program does not have a sufficient number of graduate assistantships to support all students.

b. Official academic transcripts. Successful completion of a bachelor's degree from an accredited institution with one or more semesters of biology, physics, anatomy, physiology, chemistry, biochemistry/molecular biology, math are recommended. All applicants should have at least a 3.0 cumulative GPA (scale of 4.0). While a master's degree is not required for admissions into the biomedical sciences Ph.D. program, a master's degree with a strong background in the research area of focus is a plus.

c. TOEFL/IELTS/Duolingo: The minimum acceptable scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS respectively. An applicant whose native language is English and is a citizen of one of the following countries or has earned a university level degree from a school in one of the following countries may be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas,

Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/ cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency, until further notice.

d. Three letters of recommendation.

e. Statement of research interests and career objectives. A letter stating research & career interests and goals, prior research experience and outcomes, reasons for interest in BMS program. Include your contact information in the letter.

f. Current professional resume

2. Application Process. The BMS admissions committee reviews the completed application.

a. Contact faculty in your area of interest and obtain their endorsement. Faculty may choose to interview the candidate on-campus or via zoom.

b. Submit your application materials (pdf files of cover letter/statement of purpose, letter of sponsorship from the faculty, three letters of reference, transcripts, TOEFL scores to the admissions office via the University's admission portal.

c. To ensure full application review for fall semester admission, applications should be received by **February 15**.

d. Review by BMS Admissions Committee.

e. Forward application packet with BMS recommendation to the faculty and host department.

f. Notification of decision to applicant by **May 1**.

Program of Study:

Rationale: The program of study is designed according to student learning goals and research opportunities. It blends depth and breadth of preparation by providing broad core requirements with electives promoting specialization in a "parent" discipline. This is recognized on program documentation by a Doctorate in Biomedical Sciences/"specialization" area. For example, Doctorate in Biomedical Sciences/Reproductive Biology.

Student Learning Outcomes: The BMS program provides a unique array of formal courses and informal discovery experiences focused on ensuring aptitudes, behaviors, and skills necessary for leadership and competitive success in the biomedical science arena.

Although the foundation enabling innovative, independent thinking and knowledge discovery is deep discipline knowledge, the BMS program is also designed to promote student competency in information assessment, synthesis and integration, communication and translation to the broader community, teamwork, leadership, and project management.

The BMS program trains graduates to be competent, skilled experimentalists, problem solvers, critical and independent thinkers, expert in their field, with both depth and breadth of knowledge.

In addition, the program aims to instill characteristics that are essential to long-term professional success, preparing scientists who are effective and dedicated mentors and teachers, organized administrators, exemplars of high ethical standards, and effective collaborators.

Upon completion of the program, graduates will demonstrate:

- Independent, critical thinking skills
- Ability to identify appropriate biographical resources
- Knowledge of recent advances in discipline and related areas
- Understanding of a broad spectrum of research methodologies and their applications

- Ability to critically analyze research findings
- Ability to design and independently execute research
- Ability to use appropriate information technology to record, manage, and disseminate information
- Understanding of issues related to researcher and subject rights
- Motivation and aptitude needed to acquire knowledge
- Communication skills that are appropriate for a range of audiences and purposes
- Ability to construct and articulate arguments to a wide range of audiences
- Ability to effectively support the acquisition of knowledge by others when teaching or mentoring students
- Willingness to assume responsibility for their work
- Ability to design and teach undergraduate or graduate courses
- Ability to publish single/first authored papers in peer-reviewed journals

Program in Ecology and Evolution, Ph.D. Interdisciplinary Program

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/pie/

Email: ecology@uwyo.edu

Program Director: Melanie Murphy, Ph.D.

Degree Offered

Ph.D. in Ecology and Evolution

The Program in Ecology and Evolution (PiE^2) prepares doctoral students to lead the disciplines of ecology and evolution during the coming decades. The program is grounded in the natural history of organisms in their environment, but incorporates tools and perspectives from across the biological, physical, mathematical, computational, and earth sciences. Students develop conceptual, historical, and philosophical perspectives spanning the entire range of subdisciplines in ecology and evolution, while receiving advanced training in the subdiscipline of their individual interest.

The program fosters long-term career development by exploring the linkages of ecology and evolution with other disciplines, and by scanning the ecological horizon for emerging questions, concepts, and approaches that will shape the field in years to come.

Faculty members from several departments and colleges participate in the Program in Ecology and Evolution. Their interests span the full range of topics covered in the field of ecology and evolution, and students in the program reflect this diversity.

Program Specific Admission Requirements:

Only students seeking a doctoral degree will be admitted into the program. Minimum criteria for admission to the Program in Ecology and Evolution are:

Minimum undergraduate GPA of 3.000

Agreement by a member of the PiE^2 faculty to sponsor the student, or to co-sponsor the student together with a PiE^2 affiliate

Admission to a home department at the University of Wyoming

All applications to the program will be reviewed by the Graduate Affairs Committee, which has authority on admissions. Students applying to the program who lack a master's degree must show exceptional promise and commitment (e.g., through undergraduate or post-graduate research experiences, peer-reviewed publications, and/or success in competing for research fellowships). Such students are encouraged to consult with their prospective adviser on whether to apply directly to PiE^2 or to master's programs in individual home departments of PiE^2 faculty.

Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the program. Transfer is not pro forma. Transfer applications are subject to the same criteria as for entering students, and admission to the program for transfer students must be approved by the Graduate Affairs Committee.

Program Specific Degree Requirements:

Advisory Committee:

Before the end of the second semester of study, the student should nominate a five-member advisory committee to the Office of the Registrar. At least three members of the committee, including the committee chair (usually the student's adviser), will be members of the PiE^2 faculty. One other member, who will serve as Graduate Faculty

representative, must be from outside the home department of the major adviser, although (s)he can be a faculty member in a department that participates in the program. The committee will advise the student on his/her program of graduate study, execute and evaluate the student's preliminary examination, evaluate the student's dissertation proposal and dissertation, and conduct the student's dissertation defense.

Program of Study:

All students are required to take ECOL 5100 or equivalent. This course should be taken during the first year of residency. Exceptions or substitutions of these requirements are subject to approval by the graduate affairs committee.

The program of study must include at least 6 credit hours aimed at developing a tool skill, which except for rare cases shall be in the quantitative/analytical domain (e.g., statistics, modeling, GIS, remote sensing, bioinformatics). Courses relating to research tools should be taken early in the student's residency to ensure that they can be used in thesis research and advanced studies. Specific coursework and tool-skill development for the student's program of study will be developed in consultation with and subject to approval by the student's advisory committee.

Admission to Candidacy:

Admission to candidacy for the Ph.D. requires two steps: 1) providing evidence that the student is prepared to identify a research question, design an approach for investigating that question, and a plan for executing the approach, all in the format of an NSF-style research proposal, and 2) illustrating adequate proficiency in the subject matter of ecology and evolution through

a process involving both written and oral exams.

Proposal:

Students must submit a NSF-style proposal to their committee outlining their project, typically by the end of the fourth semester. Each committee member will provide feedback to the student on the proposed research and indicate approval of the proposal or request revision. The proposal must be approved by all committee members prior to starting the preliminary exams.

While this proposal should be a plan for actual dissertation research, unforeseen circumstances may require altering the student's dissertation work after the proposal has been approved by the committee. In the case of a major alteration, the student should reformulate a research plan and submit it to the committee in writing for committee approval.

Preliminary Examination:

Passing the preliminary exam is the official admission to candidacy.

Written portion of the preliminary exam. The student will take the written exam portion of the preliminary exam no fewer than two weeks following approval of the research proposal. The goal of this exam is to test breadth of knowledge in ecology and evolution. The design of this exam will be coordinated by the graduate committee under the leadership of the adviser. Each written exam will cover the following topics:

- Ecological topics ranging from organismal/evolutionary to ecosystem-level perspectives, integrating concepts and perspectives from across the discipline, over a wide range of spatial and temporal scales.
- The philosophical and historical development of ecology and evolution.

- The conceptual background of the student's area of specialization.

The exam will consist of four to six questions developed collectively by the committee and organized by the student's major professor. The exam will be open book; however, the answers will be solely the work of the student. Answers should be fully cited and collectively should be no longer than 30 pages double-spaced exclusive of references cited. Students will have one full week (seven days) to complete the exam. Committee members will indicate pass/fail within one week following completion of written exams. Four of five passing votes are required.

Oral Portion of the Preliminary Exam. No sooner than two weeks after successfully passing the written exam, the student may proceed to an oral exam administered by his/her graduate committee. Oral exams center around three goals from which questions will be derived:

- To verify that the student is prepared, conceptually and methodologically, to carry out successful dissertation research.
- To evaluate the student's ability to conceptualize specific questions in a broad, integrative context.
- To evaluate the student's ability to think spontaneously and creatively and to articulate responses about unexpected or novel questions.

The advisory committee will discuss and organize specific questions based on these goals in a short session at the beginning of the exam period before admitting the student to the examination room and starting the exam. Following the exam each committee member will provide non-binding paper votes of pass/ fail for each of the three goals of the oral exam. Following discussion of the student's performance, committee members will each assign a grade of pass/fail for the overall exam. Four of five committee members must vote for passing the overall oral exam.

Students whose performance is unsatisfactory will be given one opportunity for retaking the oral examination. This retake will occur no later than the academic-

year semester following the first examination.

Public Seminars:

Students are required to give two oral presentations on their research. The purposes of these presentations are to provide the student with practice in oral presentations and to keep the PiE^2 community informed of the student's progress. The first will describe the student's dissertation research proposal. This presentation will be given before the student submits his/her thesis proposal. The second presentation will summarize the student's completed dissertation research, and will normally be given the same semester as the student's dissertation defense. Under extraordinary circumstances (subject to approval by the Graduate Affairs Committee), this presentation may be given at an earlier time. These presentations must be open to the public, and may comprise part of a departmental or Program in Ecology and Evolution seminar or brown-bag series.

Hydrologic Sciences (WRESE), Ph.D. Interdisciplinary Program

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/wrese

E-mail: wrese@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Degree Offered

Ph.D. in Hydrologic Sciences

The Water Resources/Environmental Science and Engineering (WRESE) program facilitates Ph.D. level course offerings in water-related disciplines, and coordinates offerings of these courses. Furthermore, the WRESE program serves as a focal-point for water-related graduate research and education at the University of Wyoming.

This interdisciplinary degree program encourages cross-department and inter-college coordination for research and education in hydrology and water resources.

The WRESE Program grants a PhD in Hydrological Sciences.

Program Specific Admission Requirements:

Ph.D. in Hydrologic Sciences

The WRESE Program only admits students seeking a doctoral degree.

Those interested in graduate study in this program, are encouraged to contact the WRESE program (wrese@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit an application to the program via the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html). Prospective students applying to the WRESE program must satisfy the minimum criteria for admission of their advisor's home department (i.e., number of reference letters

required; minimum GRE scores, if requested; other supporting documents, if requested; etc.). Similarly, applicants should adhere to the submission deadline indicated by their advisor's home department.

Minimum criteria for admission to the WRESE Program are:

- Minimum undergraduate GPA of 3.000
- Agreement by a faculty member affiliated with the WRESE program to sponsor the student
- Admission to a home department at the University of Wyoming

Typically, students admitted into the program will have previously obtained a Masters-level degree. Under certain circumstance, students may be admitted directly after an undergraduate degree if they show exceptional promise and commitment. Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the WRESE program.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Degree Requirements:

Students in the WRESE Program are expected to create their graduate committee within the first year of study. The committee should be composed of three faculty members within the PhD program in Hydrology and 2 should be from the student's departmental home. A committee

shall be composed of no fewer than 5 members, of which only one may be from outside the University. Additional committee members may be added to support the student's learning and objectives on the discretion of the committee and WRESE Program chair.

Program of Study:

Students enrolled in the Program should complete their Program of Study within the first 3 semesters. The student shall work with his/her research advisor and committee to determine the appropriate course of study relative to the student's research agenda. Students are expected to complete a rigorous course of study in quantitative hydrological sciences. Minimum requirements for the PhD include:

- Coursework credits: 42 hours (26 can be from an MS)
- Total credits: 72 hours
- Math expectations: students are encouraged to pursue a high level of math proficiency, with typical students progressing through differential equations. Individual math expectations will be determined by the committee and program chair.

A dissertation proposal should be approved by the end of the 4th semester. Students shall submit their proposal to their committee for review two weeks prior to a holding a committee meeting where the student (a) presents their proposal in a public presentation and (b) defends the proposal to the committee in a closed meeting. After the meeting, the student shall amend the proposal as required by the committee within a timely manner.

Admission to Candidacy / Preliminary Examination:

Advance to candidacy is attained by passing preliminary exams within 3 years of initiating a degree program. Students should complete their preliminary exams as close to the end of their primary coursework as possible. Preliminary exams consist of two parts. The first part is a written examination wherein committee members shall submit written questions to the student. Once the student has passed their written exams, they will be administered an oral examination.

The written exam shall be administered by the student's research adviser, who will coordinate the questions so as to obtain a comprehensive review of the student's knowledge of the materials the student has learned in the classroom and needs to complete his/her research topic. Written questions should cover both conceptual and theoretical underpinnings in hydrological sciences and technical questions related to the student's research area.

The written exam will consist of a series of questions as decided upon by the committee and should take no more than two weeks to complete.

Each committee member shall grade their portion of the exam as pass/fail. The student shall be viewed as passing the written exam if no more than one person grades their portion of the exam as failing.

The oral examination will be held no sooner than two weeks after the written exams, and only after the student has passed their written examinations. The oral exam should be no less than 90 minutes long and no longer than 3 hours.

Following the exam, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Dissertation:

The student will prepare a dissertation and make the document available to the committee at least two weeks in advance of an oral defense of the document. The oral defense must be at least 15 weeks after the

student has been advanced to candidacy. Students shall present a public defense to the university community that is expected to be approximately 45 minutes long, with a public question-and-answer period after the presentation. If the committee determines that the student has presented a suitable oral presentation of his/her research findings, a closed session meeting will be held in which the student defends their research to the committee. At the conclusion of the defense, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Other information:

Students in the WRESE Program may participate from any college, with the expectation that their program of study and dissertation will focus on quantitative issues of hydrology and water resources. The Program welcomes academic diversity, and students in WRESE have entered into the Program from a wide range of academic backgrounds and have hailed from numerous home departments, including Ecosystem Science and Management, Civil and Architectural Engineering, Botany, Zoology and Physiology, and Geology and Geophysics.

Molecular and Cellular Life Sciences, Ph.D. InterdisciplinaryProgram

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/mcls/
Email: mcls@uwyo.edu

Program Director: Daniel Levy, Ph.D.

Degree Offered

Ph.D. in Molecular and Cellular Life Sciences

This interdisciplinary program with more than 30 faculty participants spans a wide range of research topics, such as:

Biotechnology-bioengineering, biomaterials, pharmacology, cell biology and signaling, genetics and development, genomics, proteomics, computational biology, microbiology and infectious disease, structural biology, and biophysics.

Coursework focuses on core courses in biochemistry and molecular biology, with electives that include such diverse courses as:

Topics in Genomics, Biophysics, Microbial Physiology and Metabolism, Cell and Developmental Genetics, Mass Spectrometry and Analytical Chemistry, Biomedical Engineering, Mammalian Endocrinology, Cell Culture and Virology, Introduction to Bioinformatics, Protein Structure and Function, Microbial Genetics, Computational Biology, and Quantitative Microscopy.

Program Specific Admission Requirements:

1. Applicants should apply through the online graduate application link. This process requires uploading a statement of purpose, a CV, academic transcripts, and test scores. The statement of purpose should include a brief narrative that describes the applicant's motivation to pursue graduate

studies in the life sciences, relevant experiences, and specific reasons for applying to the MCLS program at the University of Wyoming. The program does not adhere to strict test score minimums, however, for international applicants minimum suggested scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS, respectively. An applicant whose native language is English and is a citizen of one of the following countries or has earned a university level degree from a school in one of the following countries will be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores of 110 or higher as proof of English proficiency until further notice. More information for international applicants can be found on the University of Wyoming graduate admissions website. The application also requests that three reference letters be submitted in support of the candidate's application. Completed applications are due on January 1.

2. The MCLS admissions committee reviews completed applications starting in early January of each application cycle. Promising applications are selected based on research experience, grades, test scores, and reference letters. The most compelling statements of purpose convincingly describe why the applicant is interested in pursuing graduate studies in the life sciences, detailing relevant past research experience and how it has prepared the student for PhD studies. Reference letters that include specific details and anecdotes about the applicant are most useful. The committee generally looks for grades of B or better in life science and chemistry courses, although lower grades can be balanced by a sufficiently strong research background. Successful applicants will be notified of admission decisions by May 1 at the latest,

although the majority of decisions will be made by March 15.

3. Following the initial reviews, selected applicants are invited for a Zoom interview. Applicants will be provided with a primary research paper that they should read in preparation for the interview.

4. Zoom interviews are conducted with at least two members of the admissions committee. Applicants are asked a variety of questions, including why they are interested in the MCLS program, how their previous research experience has prepared them for PhD studies, their perceived strengths and weaknesses as a scientist, and future career goals. The interviewers also ask questions about the research paper and more general molecular biology questions to determine if the applicants have a sufficiently strong background to succeed in the MCLS program.

5. Shortly after the interview sessions, the MCLS admissions committee discusses the results of the Zoom interviews and ranks applicants for offers of admission, conditional upon approval by the Office of Admissions.

Program Specific Degree Requirements:

MCLS doctoral students must fulfill the minimum requirements outlined by the university. In addition, students must obtain a high level of proficiency in the core foundations of the molecular and cellular life sciences through required courses in biochemistry/ molecular biology, scientific literature analysis proficiency, and the MCLS cornerstone course. Because of the broad range of research interests pursued by MCLS faculty and students, considerable flexibility will be exercised regarding the specific nature of the graduate level elective courses that students may take. Students must successfully complete four eight-week rotations in MCLS laboratories of their choice during the first year. Additionally, students must pass a comprehensive assessment exam at the end of the first year.

Near the end of their second year in the program, students will undertake a qualifying examination in order to be formally admitted to graduate degree candidacy. This exam will have both written and oral components and will cover areas of science that are relevant to the students' proposed research. Annual meetings with a research-specific dissertation committee will facilitate and evaluate the research progress of MCLS students beginning in the second year. Students must also attend weekly outside seminars on topics in the molecular life sciences for the durations of their studies. For more information, please see the program's Website at: http://www.uwyo.edu/MCLS/.

Neuroscience, Ph.D. InterdisciplinaryProgram

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website:
http://www.uwyo.edu/neuroscience/
Email: neuroscience@uwyo.edu

Program Director: Kara Pratt, Ph.D.

Degree Offered

Ph.D. in Neuroscience

The Graduate Neuroscience Program offers training leading to the Ph.D. degree in Neuroscience. The Neuroscience Program emphasizes systems and integrative approaches, and our goal is to provide the students with the necessary background to be broadly trained research neuroscientists and to carry out independent research in

neuroscience. The Neuroscience Program emphasizes continuing interaction with faculty from several departments and we have a low student to faculty ratio. Advisors spend considerable time supervising and training each doctoral student. The educational philosophy of the Neuroscience Program is to encourage a problem-oriented rather than a strict discipline-bound approach to research. You will emerge from this program with the scientific and experimental training needed to comprehensively address a very wide range of research questions using a variety of techniques and analytic tools.

The Graduate Neuroscience Program is designed to enable graduate students to acquire competence in the various disciplines necessary for research and teaching careers in neuroscience. The current interests of the Neuroscience faculty include sensory neurophysiology, behavioral neuropharmacology, neurodevelopment, neurodegeneration, and synaptic plasticity.

Students and faculty have access to outstanding resources established by NIH Neuroscience and Sensory Biology Core grants. The Microscopy Core houses both light (Zeiss laser scanning, fluorescent) and electron (Transmission and

Scanning) microscopes. Resources needed to conduct research ranging from molecular, cellular circuit level to behavior are readily available within the Neuroscience Center.

Doctoral Program Admission Minimum Requirements:

GRE: Accepted but not required;

GPA: 3.000 (4.000 scale);

Three favorable letters of recommendation;

Bachelor's degree in a biological science from an accredited institution;

Statement of research interests and career objectives. We recommend that students

study the Neuroscience faculty web sites and contact faculty regarding openings and shared research interests.

You will be best prepared for our program if you have successfully completed courses in neuroscience, chemistry, biology, physiology, and cell/molecular biology. Students may be admitted with deficiencies in some of the areas if they are strong in many or all others. If so, the student's advisory committee will determine what additional work is necessary during the first year to correct any deficiency.

Program Specific Degree Requirements:

All doctoral Neuroscience students are required to complete a program of core classwork that must include the required courses Introduction to Neuroscience (NEUR 5280) and Structure and Function of the Nervous System (NEUR 5100). Students are required to take one course in Statistics (e.g. STAT 5050, STAT 5210) and the course that meets this requirement will be arranged with the student's committee. The statistics requirement must be met by the end of the second year. The Neuroscience Program is a research-oriented program and students are expected to take a minimum of 2 to 3 credit hours of research per semester. Students are also expected to enroll in an on-going Seminar in Neuroscience. The Neuroscience Seminar, which meets weekly and is attended by students and faculty members, provides an opportunity for intellectual and social exchange, as well as for the development of professional skills in critical thinking. The topic for seminar and the faculty member directing the seminar changes each semester. The remainder of the coursework for the doctor of philosophy degree is selected from designated courses in Neuroscience, physiology, pharmacology, and molecular biology. A grade of B or better is required for all Neuroscience courses.

A student is expected to have a graduate adviser at all times. The faculty adviser must

be a participating member of the Neuroscience faculty. The adviser is responsible for directing the student's research and academic coursework. During the second year, the student will have an advisory committee. The advisory committee will consist of at least three neuroscience faculty members and an outside member. Normally, the student's adviser will chair the committee and help identify members of the committee who best match the student's area of interest. The role of the advisory committee is to oversee all aspects of the student's education after the first year.

In the student's second or third year, the advisory committee will set and evaluate the student's qualifying examination. After successful completion of the preliminary examination the student will profess to Ph.D. candidate status.

The dissertation is the single most important component of the graduate program. It reports the results and significance of the student's research. In addition to the written dissertation, the doctoral candidate will deliver a formal seminar based on their research. The seminar will be followed by an examination by the student's advisory committee.

Water Resources (WARE), M.S. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/wrese/ware/
Email: ware@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Departments and Degrees Involved in WARE

Several academic departments throughout the university work together to provide an interdisciplinary Master's degree program in water resources. The Masters' degree offered through these affiliations is awarded as a major with each of the sponsoring departments graduate programs and is designated on the graduate transcript as: M.S. or M.A. in (Program Name)/Water Resources. This formal recognition of a water resources degree emphasis certifies that the student has completed an in-depth multidisciplinary course program in the broad area of water resources. The following is a list of participating departments:

- Agricultural Economics/Water Resources
- Botany/Water Resources
- Civil Engineering/Water Resources
- Economics/Water Resources
- Entomology/Water Resources
- Geology/Water Resource
- Geophysics/Water Resources
- Rangeland Ecology And Watershed Management / Water Resources
- Soil Science/Water Resources
- Zoology And Physiology/Water Resources

The WARE program is an interdisciplinary MS "slash" program. Students who enroll in the program are pursuing graduate studies in a range of departments at the University of Wyoming. WARE is a dual degree program that encourages students to pursue interdisciplinary academic options while completing their MS research.

The educational underpinnings of this program include the following:

- The purpose of the program is to develop cross-disciplinary education and perspectives regarding water resources.

- Training is to be consistent with the rigor expected of professionals with water resource expertise.
- The cross-disciplinary major program is flexible to meet the individual professional objectives of students.

Primary responsibility of student guidance and graduate program formulation resides with the sponsoring department and sponsoring major professor. Once accepted to a "home" department, each candidate will form a graduate committee that contains at least one member drawn from the Hydrologic Science Program faculty. The faculty representative on the candidates graduate committee shall aid in formulating course program design, academic performance criteria, and research objectives throughout the candidates' tenure in the program.

Graduate

Agricultural Economics/Water Resources, M.S. Interdisiplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Agricultural Economics M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Agricultural Economics, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements as outlined Water Resources, M.S.

Please note, the Water Resources, M.S. is not a stand-alone degree.

Biomedical Sciences, Ph.D.

The Biomedical Sciences graduate program seeks to provide the students with a unique research training environment to integrate a variety of scientific approaches to address complex health-related challenges.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Biomedical Sciences, Ph.D. Interdisciplinary Program

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website http://www.uwyo.edu/biomedphd/
Email: bms@uwyo.edu

Program Director: Sreejayan Nair, Ph.D.

Degree Offered

Ph.D. in Biomedical Sciences

Biomedical sciences is the study of human biological processes; the complex interactions between physiological, genetic and environmental factors that influence disease and health. It spans the spectrum from fundamental discovery to innovation and application.

Areas of focus may include but not limited to cardiac health, nutrition, reproductive biology, toxicology, diagnostic & imaging and medical engineering.

The PhD program in biomedical sciences is designed to position graduates for long-term competitive success in the rapidly changing and multifaceted health-related arena in the 21st century. It is a comprehensive, interdisciplinary program, making connections between various disciplines to gain new insights, discover and apply new knowledge, and promote self-directed, life-long learning.

Biomedical Sciences is a research & discovery focused program balancing depth and breadth of content knowledge with "enabling" skills including problem solving, innovation, entrepreneurship, communication and leadership.

Program Specific Admission Requirements:

1. Minimum requirements. Applicants who do not meet the minimum requirements may be conditionally accepted at the discretion of the BMS Admission Committee. Please submit the application packet comprising the following documents for pre-admission screening:

a. Faculty sponsor. Contact potential biomedical sciences graduate program faculty sponsor in your area of interest prior to submitting an application. NOTE: a letter indicating the sponsorship by a faculty is strongly recommended as the program does not have a sufficient number of graduate assistantships to support all students.

b. Official academic transcripts. Successful completion of a bachelor's degree from an accredited institution with one or more semesters of biology, physics, anatomy, physiology, chemistry, biochemistry/molecular biology, math are recommended. All applicants should have at least a 3.0 cumulative GPA (scale of 4.0). While a master's degree is not required for admissions into the biomedical sciences Ph.D. program, a master's degree with a strong background in the research area of focus is a plus.

c. TOEFL/IELTS/Duolingo: The minimum acceptable scores are 540 (76 iBT) and 6.5 for TOEFL and IELTS respectively. An applicant whose native language is English and is a citizen of one of the following countries or has earned a university level degree from a school in one of the following countries may be exempt from providing additional proof of English proficiency: Antigua & Barbuda, Bahamas, Belize, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia Dominica, St. Vincent & the Grenadines, Trinidad & Tobago, Australia, Bermuda, Canada (all provinces except Quebec), Ireland, New Zealand, United Kingdom, and the United States. Due to COVID-19 related postponements/ cancellations of TOEFL/IELTS exams, we will be accepting Duolingo scores or 110 or higher as proof of English proficiency, until further notice.

d. Three letters of recommendation.

e. Statement of research interests and career objectives. A letter stating research & career interests and goals, prior research experience and outcomes, reasons for interest in BMS program. Include your contact information in the letter.

f. Current professional resume

2. Application Process. The BMS admissions committee reviews the completed application.

a. Contact faculty in your area of interest and obtain their endorsement. Faculty may choose to interview the candidate on-campus or via zoom.

b. Submit your application materials (pdf files of cover letter/statement of purpose, letter of sponsorship from the faculty, three letters of reference, transcripts, TOEFL scores to the admissions office via the University's admission portal.

c. To ensure full application review for fall semester admission, applications should be received by **February 15**.

d. Review by BMS Admissions Committee.

e. Forward application packet with BMS recommendation to the faculty and host department.

f. Notification of decision to applicant by **May 1**.

Program of Study:

Rationale: The program of study is designed according to student learning goals and research opportunities. It blends depth and breadth of preparation by providing broad core requirements with electives promoting specialization in a "parent" discipline. This is recognized on program documentation by a Doctorate in Biomedical Sciences/"specialization" area. For example, Doctorate in Biomedical Sciences/Reproductive Biology.

Student Learning Outcomes: The BMS program provides a unique array of formal courses and informal discovery experiences focused on ensuring aptitudes, behaviors and skills necessary for leadership and competitive success in the biomedical science arena.

Although the foundation enabling innovative, independent thinking and knowledge discovery is deep discipline knowledge, the BMS program is also designed to promote student competency in information assessment, synthesis and integration, communication and translation to the broader community, teamwork, leadership and project management.

The BMS program trains graduates to be competent, skilled experimentalists, problem

solvers, critical and independent thinkers, expert in their field, with both depth and breadth of knowledge.

In addition, the program aims to instill characteristics that are essential to long-term professional success, preparing scientists who are effective and dedicated mentors and teachers, organized administrators, exemplars of high ethical standards, and effective collaborators. Upon completion of the program, graduates will demonstrate:

- Independent, critical thinking skills
- Ability to identify appropriate biographical resources
- Knowledge of recent advances in discipline and related areas
- Understanding of a broad spectrum of research methodologies and their applications
- Ability to critically analyze research findings
- Ability to design and independently execute research
- Ability to use appropriate information technology to record, manage, and disseminate information
- Understanding of issues related to researcher and subject rights
- Motivation and aptitude needed to acquire knowledge
- Communication skills that are appropriate for a range of audiences and purposes
- Ability to construct and articulate arguments to a wide range of audiences
- Ability to effectively support the acquisition of knowledge by others when teaching or mentoring students
- Willingness to assume responsibility for their work
- Ability to design and teach undergraduate or graduate courses
- Ability to publish single/first authored papers in peer-reviewed journals

Additional Course Information:

The BMS Ph.D. program requires a minimum of 72 hours of credit from UW or another approved university. At least 42

hours of the 72 hours minimum must be earned in formal classroom courses. Twelve hours of credit at 4000-level coursework are permitted towards this. This 72-hour requirement may include graduate credits earned while working toward the M.S. degree in the same area, but in that case, at least 42 hours of the 72 must be earned through formal coursework. Additional credits toward the 72-hour requirement will comprise mainly or entirely of Dissertation Research (BMS 5980) credits. As indicated above, to be considered a full-time graduate student at the University of Wyoming students must be signed up for 9 credit hours each semester.

Required Coursework (8 Credits):

- BMS 5880 - Biomedical Sciences Research Ethics Credits: 2
- BMS 5985 - Seminar Credits: 1 in Biomedical Sciences Credits: 3 (1 credit each year for at least three years)
- Graduate-Level Physiology Course Credits :3

Three courses from the following list (9 credits):

- MOLB 5600 - Advanced Biochemistry Credits: 3
- MOLB 5670 - Advanced Molecular Cell Biology Credits: 3
- PHCY 6230 - Pharmacology I Credits: 4
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3

Recommended Program Electives (12 Credits)

- CHE 5100 - Biochemical Engineering Credits: 3
- FCSC 5145 - Advanced Nutrition and Metabolism Credits: 4
- FCSC 5147 - Nutrition and Weight Control Credits: 3

- KIN 5047 - Biomechanics in Sports Credits: 3
- KIN 5062 - Applied Concepts in Human Aging Credits: 3
- PATB 5510 - Introductory Virology Credits: 3

Concentration Area (14 credits):

Research/Dissertation (remaining):

Students are expected to conduct research leading to a publishable dissertation. While publication expectations are determined largely by the major advisor, it is required that one manuscript be submitted to a peer-reviewed journal prior to the defense. Students will need to demonstrate lead authorship on articles published in their dissertation. (6 credits from MS if applicable).

Additional Courses:

- BMS 5920 - Continuing Registration: On Campus Credits: 1-12
- BMS 5940 - Continuing Registration: Off Campus Credits: 1-24
- BMS 5980 - Dissertation Research Credits: 1-24

Botany/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Botany M.S. Requirements:

Students will complete all requirements of M.S. core requirements in their major degree as outlined Botany, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

The Water Resources M.S. is not a stand-alone degree.

Civil Engineering/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Civil Engineering M.S. Requirements:

Students will complete all requirements of M.S. core requirements in their major degree as outlined Civil Engineering, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Ecology and Evolution, Ph.D.

The Program in Ecology and Evolution (PiE^2) provides you with long-term career development by exploring the linkages of ecology and evolution with other disciplines, and by reaching for emerging questions, concepts, and approaches that will shape the future of the field.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Program in Ecology & Evolution, Ph.D.

School of Graduate Education
Knight Hall 247
Phone: (307) 766-4128
Website: http://www.uwyo.edu/pie/
Email: ecology@uwyo.edu

Program Director: Melanie Murphy, Ph.D.

Degree Offered

Ph.D. in Ecology & Evolution

The Program in Ecology & Evolution (PiE^2) prepares doctoral students to lead the discipline of ecology & evolution during the coming decades. The program is grounded

in the natural history of organisms in their environment, but incorporates tools and perspectives from across the biological, physical, mathematical, computational, and earth sciences. Students develop conceptual, historical, and philosophical perspectives spanning the entire range of subdisciplines in ecology & evolution, while receiving advanced training in the subdiscipline of their individual interest.

The program fosters long-term career development by exploring the linkages of ecology & evolution & nbsp;with other disciplines, and by scanning the ecological horizon for emerging questions, concepts, and approaches that will shape the field in years to come.

Faculty members from several departments and colleges participate in the Program in Ecology & Evolution. Their interests span the full range of topics covered in the field of ecology & evolution, and students in the program reflect this diversity.

Program Specific Admission Requirements:

Only students seeking a doctoral degree will be admitted into the program. Minimum criteria for admission to the Program in Ecology & Evolution are:

- Minimum undergraduate GPA of 3.000
- Agreement by a member of the PiE^2 faculty to sponsor the student, or to co-sponsor the student together with a PiE^2 affiliate
- Admission to a home department at the University of Wyoming

All applications to the program will be reviewed by the Graduate Affairs Committee, which has authority on admissions. Students applying to the program who lack a master's degree must show exceptional promise and commitment (e.g., through undergraduate or post-graduate research experiences, peer-reviewed publications, and/or success in competing for research fellowships). Such

students are encouraged to consult with their prospective adviser on whether to apply directly to PiE^2 or to master's programs in individual home departments of PiE^2 faculty.

Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the program. Transfer is not pro forma. Transfer applications are subject to the same criteria as for entering students, and admission to the program for transfer students must be approved by the Graduate Affairs Committee.

Program Specific Degree Requirements:

Advisory Committee

Before the end of the second semester of study, the student should nominate a five-member advisory committee to the Office of the Registrar. At least three members of the committee, including the committee chair (usually the student's adviser), will be members of the PiE^2 faculty. One other member, who will serve as Graduate Faculty representative, must be from outside the home department of the major adviser, although (s)he can be a faculty member in a department that participates in the program. The committee will advise the student on his/her program of graduate study, execute and evaluate the student's preliminary examination, evaluate the student's dissertation proposal and dissertation, and conduct the student's dissertation defense.

Program of Study

All students are required to take ECOL 5100 or equivalent. This course should be taken during the first year of residency. Exceptions or substitutions of these requirements are subject to approval by the graduate affairs committee.

The program of study must include at least 6 credit hours aimed at developing a tool skill, which except for rare cases shall be in the quantitative/analytical domain (e.g., statistics, modeling, GIS, remote sensing, bioinformatics). Courses relating to research tools should be taken early in the student's residency to ensure that they can be used in thesis research and advanced studies. Specific coursework and tool-skill development for the student's program of study will be developed in consultation with and subject to approval by the student's advisory committee.

Admission to Candidacy

Admission to candidacy for the Ph.D. requires two steps: 1) providing evidence that the student is prepared to identify a research question, design an approach for investigating that question, and a plan for executing the approach, all in the format of an NSF-style research proposal, and 2) illustrating adequate proficiency in the subject matter of ecology & evolution through a process involving both written and oral exams.

Proposal

Students must submit a NSF-style proposal to their committee outlining their project, typically by the end of the fourth semester. Each committee member will provide feedback to the student on the proposed research and indicate approval of the proposal or request revision. The proposal must be approved by all committee members prior to starting the preliminary exams.

While this proposal should be a plan for actual dissertation research, unforeseen circumstances may require altering the student's dissertation work after the proposal has been approved by the committee. In the case of a major alteration, the student should reformulate a research plan and submit it to the committee in writing for committee approval.

Preliminary Exam

Passing the preliminary exam is the official admission to candidacy.

Written portion of the preliminary exam. The student will take the written exam portion of the preliminary exam no fewer than two weeks following approval of the research proposal. The goal of this exam is to test breadth of knowledge in ecology & evolution. The design of this exam will be coordinated by the graduate committee under the leadership of the adviser. Each written exam will cover the following topics:

- Ecological topics ranging from organismal/evolutionary to ecosystem-level perspectives, integrating concepts and perspectives from across the discipline, over a wide range of spatial and temporal scales.
- The philosophical and historical development of ecology & evolution.
- The conceptual background of the student's area of specialization.

The exam will consist of four to six questions developed collectively by the committee and organized by the student's major professor. The exam will be open book; however, the answers will be solely the work of the student. Answers should be fully cited and collectively should be no longer than 30 pages double-spaced exclusive of references cited. Students will have one full week (seven days) to complete the exam. Committee members will indicate pass/fail within one week following completion of written exams. Four of five passing votes are required.

Oral Portion of the Preliminary Exam. No sooner than two weeks after successfully passing the written exam, the student may proceed to an oral exam administered by his/her graduate committee. Oral exams center around three goals from which questions will be derived:

- To verify that the student is prepared, conceptually and methodologically, to carry out successful dissertation research.

- To evaluate the student's ability to conceptualize specific questions in a broad, integrative context.
- To evaluate the student's ability to think spontaneously and creatively and to articulate responses about unexpected or novel questions.

The advisory committee will discuss and organize specific questions based on these goals in a short session at the beginning of the exam period before admitting the student to the examination room and starting the exam. Following the exam each committee member will provide non-binding paper votes of pass/ fail for each of the three goals of the oral exam. Following discussion of the student's performance, committee members will each assign a grade of pass/fail for the overall exam. Four of five committee members must vote for passing the overall oral exam.

Students whose performance is unsatisfactory will be given one opportunity for retaking the oral examination. This retake will occur no later than the academic-year semester following the first examination.

Public Seminars

Students are required to give two oral presentations on their research. The purposes of these presentations are to provide the student with practice in oral presentations and to keep the PiE^2 community informed of the student's progress. The first will describe the student's dissertation research proposal. This presentation will be given before the student submits his/her thesis proposal. The second presentation will summarize the student's completed dissertation research, and will normally be given the same semester as the student's dissertation defense. Under extraordinary circumstances (subject to approval by the Graduate Affairs Committee), this presentation may be given at an earlier time. These presentations must be open to the public, and may comprise part of a departmental or Program in Ecology & Evolution and nbsp;seminar or brown-bag series.

Courses

- ECOL 5050 - Techniques in Environmental Data Management Credits: 4
- ECOL 5060 - Advanced Concepts in Evolution Credits: 3
- ECOL 5100 - Ecology as a Discipline Credits: 3
- ECOL 5400 - Community Ecology Credits: 3
- ECOL 5500 - Quantitative Analyses of Field Data Credits: 4
- ECOL 5520 - Habitat Selection Credits: 2
- ECOL 5540 - Microbial Diversity and Ecology Credits: 4
- ECOL 5550 - Ecology as a Scientific Profession Credits: 2
- ECOL 5580 - Rangeland Restoration Ecology Credits: 3
- ECOL 5610 - Quantitative Modeling in Landscape Ecology Credits: 3
- ECOL 5620 - Advanced Topics in Ecology Credits: 1-4
- ECOL 5650 - Tropical Field Ecology Ecuador Credits: 4
- ECOL 5680 - Landscape Genetics Credits: 3-4
- ECOL 5775 - Forest Ecology Credits: 4
- ECOL 5780 - Research in Ecology Credits: 1-6
- ECOL 5920 - Continuing Registration: On Campus Credits: 1-2
- ECOL 5940 - Continuing Registration: Off Campu Credits: 1-12
- ECOL 5980 - Dissertation Research Credits: 1-12

Economics/Water Resources M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript.

Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Economics M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Economics, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Entomology/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Entomology M.S. Requirements:

Students will complete all requirements of M.S. core requirements in their major degree as outlined Entomology, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Entomology/Water Resources M.S.

- ENTO 5678 - Aquatic Entomology Credits: 3

Geology/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Geology M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Geology, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Geology/Water Resources M.S.

One of the Following:

- GEOL 5050 - Introduction to Isotope Geology Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3

One of the Following:

- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3

Geophysics/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Geophysics M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Geophysics, M.S.

Specific Requirements for Geophysics/Water Resources M.S. M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

Water Resources M.S. is not a stand-alone degree.

One of the Following:

- GEOL 5050 - Introduction to Isotope Geology Credits: 3
- GEOL 4880 - Earth Surface Processes Credits: 3

One of the Following:

- GEOL 5444 - Geohydrology Credits: 3
- GEOL 5777 - Geochemistry of Natural Waters Credits: 3

Hydrologic Sciences, Ph.D. (WRESE)

Join a cutting-edge PhD program to gain expertise in technical, philosophical, and methodological aspects of hydrology. We foster research and learning on critical water-related science and social topics.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Hydrologic Sciences (WRESE), Ph.D.

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/wrese

E-mail: wrese@uwyo.edu

Program Director: Andrew D. Parsekian, Ph.D.

Degree Offered

Ph.D. in Hydrologic Sciences

The Water Resources/Environmental Science and Engineering (WRESE) program facilitates Ph.D. level course offerings in water-related disciplines, and coordinates offerings of these courses. Furthermore, the WRESE program serves as a focal point for water-related graduate research and education at the University of Wyoming.

This interdisciplinary degree program encourages cross-department and inter-college coordination for research and education in hydrology and water resources.

The WRESE Program grants a PhD in Hydrological Sciences.

Program Specific Admission Requirements

Ph.D. in Hydrologic Sciences

The WRESE Program only admits students seeking a doctoral degree.

Those interested in graduate study in this program, are encouraged to contact the WRESE program (wrese@uwyo.edu) for more information and guidance regarding applying. In order to apply, please submit an application to the program via

the University of Wyoming's online application system (http://www.uwyo.edu/admissions/apply.html). Prospective students applying to the WRESE program must satisfy the minimum criteria for admission of their advisor's home department (i.e., number of reference letters required; minimum GRE scores, if requested; other supporting documents, if requested; etc.).

Similarly, applicants should adhere to the submission deadline indicated by their advisor's home department.

Minimum criteria for admission to the WRESE Program are:

- Minimum undergraduate GPA of 3.000
- Agreement by a faculty member affiliated with the WRESE program to sponsor the student
- Admission to a home department at the University of Wyoming

Typically, students admitted into the program will have previously obtained a Masters-level degree. Under certain circumstance, students may be admitted directly after an undergraduate degree if they show exceptional promise and commitment. Students already admitted to doctoral programs in individual departments at the University of Wyoming may apply to transfer to the WRESE program.

International applicants, who are not native English-speakers, must submit TOEFL or IELTS scores. If an international applicant wishes to be considered for Graduate Assistantship funding, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center (http://www.uwyo.edu/elc/) if you have questions regarding the English proficiency requirements.

Please see the Graduate Admissions and Graduate Student Regulations and Policies entries in the front section of the UW Catalog for more information.

Program Specific Degree Requirements:

Students in the WRESE Program are expected to create their graduate committee within the first year of study. The committee should be composed of three faculty members within the PhD program in Hydrology and 2 should be from the student's departmental home. A committee shall be composed of no fewer than 5 members, of which only one may be from outside the University. Additional committee members may be added to support the student's learning and objectives on the discretion of the committee and WRESE Program chair.

Program of Study

Students enrolled in the Program should complete their Program of Study within the first 3 semesters. The student shall work with his/her research advisor and committee to determine the appropriate course of study relative to the student's research agenda. Students are expected to complete a rigorous course of study in quantitative hydrological sciences. Minimum requirements for the PhD include:

Coursework credits: 42 hours (26 can be from an MS)

Total credits: 72 hours

Math expectations: students are encouraged to pursue a high level of math proficiency, with typical students progressing through differential equations. Individual math expectations will be determined by the committee and program chair.

A dissertation proposal should be approved by the end of the 4th semester. Students shall submit their proposal to their committee for review two weeks prior to a holding a committee meeting where the student (a) presents their proposal in a public presentation and (b) defends the proposal to the committee in a closed meeting. After the meeting, the student shall amend the proposal as required by the committee within a timely manner.

Admission to Candidacy / Preliminary Examination

Advance to candidacy is attained by passing preliminary exams within 3 years of initiating a degree program. Students should complete their preliminary exams as close to the end of their primary coursework as possible. Preliminary exams consist of two parts. The first part is a written examination wherein committee members shall submit written questions to the student. Once the student has passed their written exams, they will be administered an oral examination.

The written exam shall be administered by the student's research adviser, who will coordinate the questions so as to obtain a comprehensive review of the student's knowledge of the materials the student has learned in the classroom and needs to complete his/her research topic. Written questions should cover both conceptual and theoretical underpinnings in hydrological sciences and technical questions related to the student's research area.

The written exam will consist of a series of questions as decided upon by the committee and should take no more than two weeks to complete.

Each committee member shall grade their portion of the exam as pass/fail. The student shall be viewed as passing the written exam if no more than one person grades their portion of the exam as failing.

The oral examination will be held no sooner than two weeks after the written exams, and only after the student has passed their written examinations. The oral exam should be no less than 90 minutes long and no longer than 3 hours.

Following the exam, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Dissertation

The student will prepare a dissertation and make the document available to the committee at least two weeks in advance of an oral defense of the document. The oral defense must be at least 15 weeks after the student has been advanced to candidacy. Students shall present a public defense to the university community that is expected to be approximately 45 minutes long, with a public question-and-answer period after the presentation. If the committee determines that the student has presented a suitable oral presentation of his/her research findings, a closed session meeting will be held in which the student defends their research to the committee. At the conclusion of the defense, each committee member must vote pass/fail. The student will be deemed as passing if they receive no more than one failing vote.

Additional Course Information:

Students in the WRESE Program may participate from any college, with the expectation that their program of study

and dissertation will focus on quantitative issues of hydrology and water resources. The Program welcomes academic diversity, and students in WRESE have entered into the Program from a wide range of academic backgrounds and have hailed from numerous home departments, including Ecosystem Science and Management, Civil and Architectural Engineering, Botany, Zoology and Physiology, and Geology and Geophysics.

Water Resources/Environmental Science and Engineering is an Interdisciplinary program that fulfills an important need by organizing a rigorous Ph.D.- level curriculum, with sufficient numbers of relevant courses to serve the needs of Ph.D. students affiliated with the program faculty.

Molecular and Cellular Life Sciences, Ph.D.

The Molecular and Cellular Life Sciences (MCLS) program serves as an inclusive and integrative graduate program for students being trained in basic biological and biomedical research at the molecular and cellular levels.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Molecular and Cellular Life Sciences, Ph.D.

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website: http://www.uwyo.edu/mcls/

Email: mcls@uwyo.edu

Program Director: Daniel Levy, Ph.D.

Degree Offered

Ph.D. in Molecular and Cellular Life Sciences

This interdisciplinary program with more than 30 faculty participants spans a wide range of research topics, such as: Biotechnology, bioengineering, biomaterials, pharmacology, Cell biology and signaling, Genetics and development, Genomics, proteomics, computational biology, Microbiology and infectious disease, Structural biology and biophysics.

Coursework focuses on core courses in biochemistry and molecular biology, with electives that include such diverse courses as: Topics in Genomics, Biophysics, Microbial Physiology and Metabolism, Cell and Developmental Genetics, Mass

Spectrometry and Analytical Chemistry, Biomedical Engineering, Mammalian Endocrinology, Cell Culture and

Virology, Introduction to Bioinformatics, Protein Structure and Function, Microbial Genetics, Computational Biology, and Quantitative Microscopy.

Program Specific Admission Requirements:

Admission to MCLS is a two-step process. The first level of evaluation is carried out by the MCLS admissions committee.

This step does not require any fee but does require that all requested materials be

submitted as described on our website. After an initial review of all complete applications, a subset of qualified applicants will be selected for video conference interviews with members of the MCLS admissions committee. Applicants who are chosen for admission to the MCLS program will then complete the final application step through the University of Wyoming Admissions office. This latter step requires the completion of several additional forms. Students are then officially notified by the university of their acceptance into the MCLS program.

We encourage students to submit their completed applications at the very latest by January 1 of each calendar year. However, because our review of applications will begin in the late fall, early submissions are encouraged and may stand a greater likelihood of success. Also note that we will continue to review new applications received after January 1 in the event that additional slots are available.

Program Specific Degree Requirements:

MCLS doctoral students must fulfill the minimum requirements outlined by the university. In addition, students must obtain a high level of proficiency in the core foundations of the molecular and cellular life sciences through required courses in biochemistry/ molecular biology, scientific literature analysis proficiency, and the MCLS cornerstone course. Because of the broad range of research interests pursued by MCLS faculty and students, considerable flexibility will be exercised regarding the specific nature of the graduate-level elective courses that students may take.

Students must successfully complete four eight-week rotations in MCLS laboratories of their choice during the first year.

Students must pass a comprehensive assessment exam at the end of the first year. Towards the end of the second year, students will undertake a qualifying examination in order to be formally admitted to graduate

degree candidacy. This exam will have both written and oral components and will cover areas of science that are relevant to the students' research.

The research and coursework progress of MCLS students will also be monitored and evaluated every year by the MCLS curriculum committee. In addition, an annual meeting with a research-specific dissertation committee will facilitate and evaluate the research progress of MCLS students beginning in the second year.

Students must attend weekly outside seminars on topics in the molecular life sciences for the durations of their studies.

For more information, please see the program's Web site at: www.uwyo.edu/MCLS/.

Neuroscience, Ph.D.

The Graduate Program in Neuroscience is interdisciplinary. Students receive broad and integrative training in neuroscience with emphasis on core concepts, skills, and methodologies.

Degree Requirements

The program of study must include a minimum of 72 semester hours of credit at the 4000 level or above.

Program Information

Neuroscience, Ph.D.

School of Graduate Education

Knight Hall 247

Phone: (307) 766-4128

Website:
http://www.uwyo.edu/neuroscience/

Email: neuroscience@uwyo.edu

Program Director: Kara Pratt, Ph.D.

Degree Offered

Ph.D. in Neuroscience

The Graduate Neuroscience Program offers training leading to the Ph.D. degree in Neuroscience. The Neuroscience Program emphasizes systems and integrative approaches, and our goal is to provide the students with the necessary background to be broadly trained research neuroscientists and to carry out independent research in neuroscience. The Neuroscience Program emphasizes continuing interaction with faculty from several departments and we have a low student to faculty ratio. Advisors spend considerable time supervising and training each doctoral student. The educational philosophy of the Neuroscience Program is to encourage a problem-oriented rather than a strict discipline-bound approach to research. You will emerge from this program with the scientific and experimental training needed to comprehensively address a very wide range of research questions using a variety of techniques and analytic tools.

The Graduate Neuroscience Program is designed to enable graduate students to acquire competence in the various disciplines necessary for research and teaching careers in neuroscience. The current interests of the Neuroscience faculty include sensory neurophysiology, behavioral neuropharmacology, neurodevelopment, neurodegeneration, and synaptic plasticity.

Students and faculty have access to outstanding resources established by NIH Neuroscience and Sensory Biology Core grants. The Microscopy Core houses both light (Zeiss laser scanning, fluorescent) and electron (Transmission and

Scanning) microscopes. Resources needed to conduct research ranging from molecular, cellular circuit level to behavior are readily available within the Neuroscience Center.

Doctoral Program Admission Minimum Requirements:

GRE: Accepted but not required;

GPA: 3.000 (4.000 scale);

Three favorable letters of recommendation;

Bachelor's degree in a biological science from an accredited institution;

https://acalogcatalog.uwyo.edu/preview_program.php?catoid=13&poid=13734&returnto=1159&print 1/2 3/9/23, 4:31 PM Program: Neuroscience, Ph.D. - University of Wyoming - Acalog ACMS™

Statement of research interests and career objectives. We recommend that students study the Neuroscience faculty web sites and contact faculty regarding openings and shared research interests.

You will be best prepared for our program if you have successfully completed courses in neuroscience, chemistry, biology, physiology, and cell/molecular biology. Students may be admitted with deficiencies in some of the areas if they are strong in many or all others. If so, the student's advisory committee will determine what additional work is necessary during the first year to correct any deficiency.

Program Specific Degree Requirements:

All doctoral Neuroscience students are required to complete a program of core classwork that must include the required courses Introduction to Neuroscience (NEUR 5280) and Structure and Function of the Nervous System (NEUR 5100). Students are required to take one course in Statistics (e.g. STAT 5050, STAT 5210) and the course that meets this requirement will be arranged with the student's committee. The statistics requirement must be met by the end of the second year. The Neuroscience

Program is a research-oriented program and students are expected to take a minimum of 2 to 3 credit hours of research per semester. Students are also expected to enroll in an on-going Seminar in Neuroscience. The Neuroscience Seminar, which meets weekly and is attended by students and faculty members, provides an opportunity for intellectual and social exchange, as well as for the development of professional skills in critical thinking. The topic for seminar and the faculty member directing the seminar changes each semester. The remainder of the coursework for the doctor of philosophy degree is selected from designated courses in Neuroscience, physiology, pharmacology, and molecular biology. A grade of B or better is required for all Neuroscience courses.

A student is expected to have a graduate adviser at all times. The faculty adviser must be a participating member of the Neuroscience faculty. The adviser is responsible for directing the student's research and academic coursework. During the second year, the student will have an advisory committee. The advisory committee will consist of at least three neuroscience faculty members and an outside member. Normally, the student's adviser will chair the committee and help identify members of the committee who best match the student's area of interest. The role of the advisory committee is to oversee all aspects of the student's education after the first year.

In the student's second or third year, the advisory committee will set and evaluate the student's qualifying examination. After successful completion of the preliminary examination the student will profess to Ph.D. candidate status.

The dissertation is the single most important component of the graduate program. It reports the results and significance of the student's research. In addition to the written dissertation, the doctoral candidate will deliver a formal seminar based on their research. The seminar will be followed by an examination by the student's advisory committee.

Courses

- NEUR 4295 - Neurodevelopment Credits: 3
- NEUR 4720 - Neuroscience Speaker Seminar Credits: 2
- NEUR 5100 - Structure and Function of the Nervous System Credits: 4
- NEUR 5280 - Introduction to Neuroscience Credits: 3
- NEUR 5295 - Neurodevelopment Credits: 3
- NEUR 5685 - Neurophysiology Credits: 3
- NEUR 5715 - Seminar in Neuroscience Credits: 1-2
- NEUR 5720 - Neuroscience Speaker Seminar Credits: 2
- NEUR 5800 - Research in Neuroscience Credits: 1-16
- NEUR 5887 - Molecular Neuropharmacology Credits: 3
- NEUR 5920 - Continuing Registration: On Campus Credits: 1-2
- NEUR 5940 - Continuing Registration: Off Campus Credits: 1-2
- NEUR 5980 - Dissertation Research Credits: 1-12

Rangeland Ecology and Watershed Management/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment

applications are handled only through the major department.

Rangeland Ecology and Watershed Management M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Rangeland Ecology and Watershed Management, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

The Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Rangeland Ecology and Watershed Management/Water Resources M.S.

- STAT 2050 - Fundamentals of Statistics Credits: 4

Soil Science/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment applications are handled only through the major department.

Soil Science M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Soil Science, M.S.

Water Resources, M.S.

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

The Water Resources M.S. is not a stand-alone degree.

Specific Requirements for Soil Science/Water Resources M.S.

- SOIL 5130 - Chemistry of the Soil Environment Credits: 3
- SOIL 5140 - Soil Microbiology Credits: 4

Students Must Take One of the Following Courses:

- SOIL 5110 - Modeling Water and Chemical Transport in Vadose Zone and Groundwater Systems Credits: 4
- SOIL 5150 - Forest and Range Soils Credits: 3
- SOIL 5160 - Soil Health and Nutrient Cycling Credits: 3

Zoology and Physiology/Water Resources, M.S. Interdisciplinary

The objective of this program is to provide students with specialized study in water resources and to signify this specialization by the designation of the water resources interdisciplinary major on the transcript. Water resources degrees are interdisciplinary and, as such, enrollment

applications are handled only through the major department.

Zoology and Physiology M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Zoology and Physiology, M.S.

Water Resources M.S. Requirements

Students will complete all requirements of M.S. core requirements in their major degree as outlined Water Resources, M.S.

College of Law

101D Law Building
Julie Hill, Dean
Phone: (307)766-6416 FAX: (307)766-6417
Web site: www.uwyo.edu/law

Professors:

KLINT ALEXANDER, B.A. Yale University 1991; Ph.D./M.Phil. Cambridge University 1997; J.D. University of Virginia 1999; Professor of Law 2015.

MELISSA ALEXANDER, B.A. Yale University 1996; J.D. University of Virginia 1999; Professor of Law 2019, 2015.

JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Associate Dean for Academic Affairs and Professor of Law 2008, 2002.

DANIELLE R. COVER, B.A. University of Maryland 1994; J.D. Tulane University School of Law 1997; Professor of Law 2020, 2014; Director of Legal Services Clinic.

JAMES M. DELANEY, B.A. University of Washington 1985; J.D. Gonzaga University School of Law 1992; LL.M. in Taxation, University of Florida 1997; Professor of Law 2013.

STEPHEN M. FELDMAN, B.A. Hamilton College 1977; J.D. University of Oregon 1982; J.S.M. Stanford University 1986; Jerry W. Housel/ Carl F. Arnold Distinguished Professor of Law 2002.

JULIE HILL, B.S. Southern Utah University 1998; J.D. Brigham Young University 2001; Dean and Professor of Law, 2024.

DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.

SAM KALEN, B.A. Clark University 1980; J.D. Washington University 1984; Professor of Law; Associate Dean 2014, 2009.

GEORGE MOCSARY, B.E. The Cooper Union School of Engineering 1995; MBA University of Rochester 1995; J.D. Fordham University School of Law 2009; Professor of Law 2019.

NOAH B. NOVOGRODSKY, B.A. Swarthmore College 1992; J.D. Yale Law School 1997; Professor of Law 2013, 2009.

TARA RIGHETTI, B.A. University of Colorado Boulder 2005; J.D. 2007; Professor of Law 2020, 2014.

JASON ROBISON, B.S. University of Utah 2003; J.D. University of Oregon 2006; LL.M. Harvard Law School 2009; S.J.D. 2013; Professor of Law 2019, 2015.

ALAN ROMERO, B.A. Brigham Young University 1990; J.D. Harvard University 1993; Professor of Law 2007, 2003.

MICHAEL R. SMITH, B.S. Florida State University 1982; J.D. University of Florida 1985; Professor of Law 2006.

Associate Professors:

JERRY FOWLER, B.A. Princeton University 1983; J.D. Stanford University 1990; Associate Professor of Law 2023, 2019; Director, International Human Rights Clinic.

LAUREN MCLANE, B.S. Radford University 2002; J.D. Seattle University School of Law 2008; Associate Professor of Law 2021, 2018.

DONA PLAYTON, B.S. University of Wyoming 1989; J.D. University of Wyoming 1993; Associate Professor of Law 2002, 2018; Director, Family and Child Legal Advocacy Clinic.

Assistant Professors:

MEREDITH ESSER, B.A. Dartmouth College 2003; M.S. London School of Economics and Political Science 2005; J.D. Georgetown University Law Center 2010. Assistant Professor of Law 2023; Director, Defender Aid Clinic.

RACHEL NGO NTOMP, L.L.B**.** University of Geneva 2015; L.L.M. University of Geneva 2017; L.L.M. Boston University School of Law 2022; Assistant Professor of Law, 2024.

CARYN SCHREIBER, B.A. Binghamton University 2008; J.D. Brooklyn Law School 2012; Assistant Professor of Law 2024.

Professor of Practice:

KIPP CODDINGTON, B.S. Purdue University 1986; J.D. Georgetown University Law Center 1993; Professor of

Practice; Director of Energy, Environment, and Natural Resources Clinic; Director of Externships 2023.

Academic Professionals:

LINDSAY HOYT, B.A. University of Wyoming 1999; J.D. University of Wyoming 2003; Assistant Dean 2017.

TAWNYA PLUMB, B.A. University of Wyoming 1996; M.L.I.S. University of Texas at Austin 1998; Electronic Services and Law Librarian, Director of Law Library 2023, 2004.

Professors Emeritus

Debra L. Donahue, Harvey Gelb, Timothy Kearley, Dee Pridgen, Elaine A. Welle, Kenneth D. Chestek.

Academic Professionals Emeritus

Debora A. Person

The College of Law was founded in 1920. The goal of the college is to provide a sound and thorough education in the law that will prepare the student to practice law in accordance with the highest standards of professional competence and responsibility. The emphasis in instruction is on analysis and understanding of legal principles and the development of skills necessary to the practice of the profession. The course of study will prepare a graduate to practice in any jurisdiction which has adopted the Anglo-American system of law.

The curriculum of the College of Law consists of three years of study within the college. Required courses necessary to basic legal knowledge make up the first two

semesters of study, while courses in the final four semesters are largely elective. Students become eligible to receive the Juris Doctor (J.D.) degree upon successful completion of 90 semester credit hours of law courses with a grade point average of at least 2.000.

The college acts as a law center for Wyoming. It serves lawyers, judges, and government by a program of continuing legal education for attorneys and others interested in significant legal developments, by research projects aimed at improving state law, and by publishing the Wyoming Law Review.

Accreditation

The college is approved by the American Bar Association and its graduates are eligible for admission to the bar in every state. A student planning to practice in a particular state should check its rules for admission to the bar.

The college is also a member of the Association of American Law Schools. Membership is conditioned upon the maintenance of an adequate teaching staff and library, the offering of a sound educational program and adherence to prescribed standards for the admission and graduation of students.

Prelegal Curriculum

There is no prescribed or required set of courses for prelegal work. A student must usually have a B.A. or B.S. degree before beginning the professional study of law. There are no restrictions on the field in which the degree is earned. A master's degree is not required for admission to law school.

The objective of prelegal study should be to acquire knowledge and skills useful in the study and practice of law. College study should prepare the student for law school by developing language comprehension and use, understanding of political, economic, social and cultural institutions, and the

ability to think logically and creatively. Courses promoting these objectives are included in the basic requirements for most undergraduate degrees. The choice of a major should be determined by the student's academic interest and professional objective in law.

Valuable background may be acquired through the study of english, history, philosophy, economics, political science, psychology, sociology, business administration, mathematics and the natural sciences.

For additional information, see the College of Law web site, (www.uwyo.edu/law).

Admission Requirements and Procedures

Admission to the professional curriculum in law is granted by the admissions committee of the College of Law. The College of Law restricts the number of entering students to a class size consistent with its facilities and its educational objectives. In evaluating an application, the committee considers the applicant's undergraduate college scholastic record and score on the Law School Admission Test (LSAT).

Other criteria relevant to the probability of success in the study and practice of law will also be considered.

- Prior to beginning work in the College of Law, applicants must have a bachelor's degree from an accredited college or university, unless they have requested and been granted following exception:
- An applicant who needs not more than 6 semester hours of college credit to qualify for a bachelor's degree may be admitted in exceptional cases to law school if the committee determines that the applicant has sufficient education and preparation for the study of law; has an outstanding undergraduate scholastic record; and has an approved program signed by the appropriate

undergraduate official indicating that the remaining requirements for the bachelor's degree may be met by summer school attendance or by other means that will not interfere with the study of law.

- Every applicant must take the Law School Admission Test (LSAT). Information about the test, the dates on which it is given, where/how it is taken, sample questions and an application form, may be obtained from Law School Admission Council, Box 2000, Newtown, PA 18940, by phone at (215) 968-1001, online at www.lsac.org.
- Every applicant must register and pay the associated fees with the Law School Admission Council Credential Assembly Service. CAS registration may be done through the LSAC website (www.lsac.org). The CAS will prepare a report that is transferred to the college where the applicant has applied.
- Every applicant must complete the electronic University of Wyoming College of Law Application through LSAC between September 15 and April 30. Applications that are received and complete by December 15 will be considered for early admission.
- Every applicant must pay the College of Law $50 Application Fee located at: https://secure.touchnet.net/C27222_ustores/web/store_main.jsp?STOREID=14&SINGLESTORE=true
- If admitted, official transcripts must be sent directly to the College of Law from each college attended and must be on file in the Admissions Office at least 30 days before the student's registration date.

Application Deadline

An initial entering class will be selected from completed applications on file on April 30. Students who submit a complete application, and it is received by the College of Law, by December 15 will be considered for early admission. An application is complete only when the college has received the LSAT score, and transcripts included in the CAS report, applications, and all

supporting documents provided by the applicant.

Admission With Advanced Standing

Transfer students are admitted only when the College of Law facilities and curriculum permit. A transfer student may transfer a minimum of 30 credits, and up to the number of credits the student could have earned had the student completed their first year at the University of Wyoming College of Law. Transfer credit will be given only for courses in which the student earned a grade of C or higher. If admitted, the student must satisfy the requirements for graduation established by the College of Law, including such other requirements as may be imposed as a condition of admission. Students interested in transferring should contact the College of Law for information concerning application procedures. The transfer student application opens May 15th and closes July 1st, through LSAC.

Academic Regulations

The Juris Doctor (J.D.) degree is awarded by the College of Law faculty to candidates who meet the following requirements:

Curriculum is subject to change at the College of Law Faculties discretion, which may cause the annually updated university catalog to be out of date. For students matriculating in or after the fall 2013 semester, each student must successfully complete (grade of "D-" or better for courses taken at this school, grade of "C" or better for courses taken elsewhere) 90 credit hours (required for graduation) of law coursework in accordance with the official curriculum as adopted by the College of Law faculty. At least 59 of these credits must be completed at the University of Wyoming College of Law. Courses taken for S/U grades count toward the hours required for the J.D. degree only if the

course is offered for the S/U grade only. Regardless of the matriculation date, students must complete at least 76 credit hours through graded (A-F) courses.

The course of study must be completed no earlier than 24 months (2 years) and not later than 84 months (7 years) after a student has commenced law study. No student shall be permitted to enroll at any time in coursework that, if successfully completed, would exceed 20 percent (18 hours) of the total coursework required for graduation.

Second and third year students may take up to six of 90 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students must receive a letter grade of B or better for these non-law courses to count toward graduation requirements. Additionally, these courses will transfer in with a satisfactory grade of 'S' and will not impact their law school GPA. Students who wish to enroll in a non-law course on this basis must secure the prior approval of the course professor and the Associate Dean of Academic Affairs at the College of Law. Approval will be based on the student's submission of a Non-Law Grad Course Request form with a brief written statement explaining how the proposed coursework relates to and enhances the student's legal education. Students should be aware that non-law courses completed on this basis will not count toward the 76 hours that students must complete in graded courses as a requirement for graduation. The non-law coursework will instead be counted as credits the law students are permitted to take on an S/U ba

Independent study writing credits: A student may earn one or two credits for an independent study writing project, as agreed by the student and supervising professor and approved by the Assistant Dean for Student Affairs. One credit requires at least 50 hours of work and two credits requires at least 100 hours of work. Up to three of the credit hours required for graduation may be independent study writing credits.

The College of Law automatically approves up to 9 hours of any joint degree core courses with the corresponding prefix to their joint degree (i.e. MBAM, POLS, ENR) that meet the grade requirement, of a letter grade of B or better, to transfer in toward their law degree. However, if a student drops their dual degree, any non-law courses are subject to review and approval based on the criteria in the previous paragraph. Additionally, if courses are needed outside of these respective prefixes, these will be approved on a case by case basis. Those students enrolled in a joint degree program may take up to 9 hours required for graduation in non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students in a joint degree program who use 9 non-law credit hours toward their J.D. degree may reduce their required number of graded credits from 76 to 73 so that they can participate in other S/U offerings at the College of Law. To receive law school credit for the non-law course, a student will be required to earn a grade of B or better in the non-law course. The grade will not count, however, toward the student's law school GPA. The course will be counted as a "satisfactory" grade for purposes of the student's law school GPA. Joint degree students should be aware that non-law courses completed on this basis will not count toward the 73 hours that joint degree students must complete in graded courses as a requirement for graduation. The non-law coursework will instead be counted as credits the law students are permitted to take on an S/U basis.

To graduate, all students must earn a cumulative grade point average of 2.000 for all courses taken at the College of Law. If a course is repeated, both grades shall be included in computing the average. The student, except in exceptional circumstances, must have a baccalaureate degree. Candidates who meet these requirements are eligible for graduation at the end of any semester.

Academic Standing

The following requirements apply to any coursework at the College of Law. Courses that law students may complete outside of the College of Law do not count in calculation of the required College of Law grade point average (GPA).

In the first year, a student who fails to make a 1.800 GPA after the first semester, or fails to make a 1.900 cumulative GPA overall in the first year's work, shall be excluded from the College of Law. A student who at any time fails to make a passing grade in two of the courses for which the student is registered in any semester shall be excluded from the College of Law.

A student who enters the second year with a GPA lower than 2.000 but at 1.900 or above, or who fails to maintain a 2.000 cumulative GPA after the first year, shall be placed on academic probation. A student on academic probation who does not attain an overall grade point average of 2.000 within one semester shall be excluded.

A student excluded from the College of Law may petition the faculty for readmission. The faculty may, in its discretion, readmit the student upon receipt of satisfactory evidence of extenuating circumstances or marked improvement in grades and study habits. Readmission may be subject to conditions, including, but not limited to, the repeating of any or all courses, as the faculty may decide. If a student's petition for reinstatement is denied, the student must wait nine months before petitioning again for readmission. Also, all students are limited to two petitions for readmission. The entire faculty will automatically hear and consider a student's initial petition. In the event of a second petition for readmission, a committee selected by the Dean will hear and consider the petition. The committee will present a report and recommendation to the faculty for adoption. Denial of a second petition is final.

Advanced Writing Requirement

As a condition of graduation, all students must complete an upper-level writing requirement consisting of a research paper of a minimum length of 5,000 words, exclusive of footnotes. All students must follow a designated standard citation form. Students must submit a detailed outline of the paper to the supervising professor, then must rewrite the paper at least once after the professor reviews the first draft. With the professor's approval, the student can meet the advanced writing requirement in any law school elective course, including a seminar, as long as the above requirements are met. The supervising professor must certify that the writing requirement has been fulfilled.

All student articles written for law review, whether published or unpublished, must have a supervising faculty member and otherwise meet all other provisions of the College of Law Advanced Writing Requirement. A student may also fulfill the requirement through an independent study or by writing a case note or comment for the law review, under the supervision of a professor. It cannot be satisfied through participation in a clinic.

Attendance Requirement

In accordance with American Bar Association Standard 308(a),[1] students must attend at least 75 percent of scheduled classes in each course. A professor may impose a minimum-attendance requirement of greater than 75 percent if the policy is communicated in writing before or during the first day of class. The law school will not differentiate between excused and unexcused absences under this policy. Rather, the minimum-attendance requirement of 75 percent accounts for all student absences regardless of causation.

A student who does not comply with the minimum-attendance requirement will be dropped from the course and receive a grade of F, unless extenuating circumstances are present, in which case the student will be dropped from the course and receive a grade of W. A professor may impose sanctions for students who comply with the minimum-attendance requirement, but who violate

additional attendance guidelines specified for the course, if such guidelines and sanctions are communicated in writing before or during the first day of class.

A professor may allow students to participate in class via virtual platforms (*e.g.*, Zoom), but students who participate in this manner will be counted as absent regardless of causation. If a professor must schedule a class meeting over a virtual platform (*e.g.*, Zoom), students who participate in the class meeting over the virtual platform will not be counted as absent.

The tables below identify how many classes students must attend to comply with the minimum-attendance policy in three-credit and two-credit courses based upon the number of class meetings. For one-credit and four-credit courses, students must verify with the professor the number of classes required to comply with the minimum-attendance requirement.

Table 1. Three-credit course meeting twice per week for 80 minutes each session, or

Two-credit course meeting twice per week for 55 minutes each session:

Class Meetings	Minimum Attendance
26	20
27	21
28	21

Table 2. Three-credit course meeting three times per week for 55 minutes each session:

Class Meetings	Minimum Attendance
40	30
41	31
42	32

Class Rank

Students are ranked by class at the end of each of the fall and spring semesters once the faculty have submitted all grades. Class rankings will be available in the Front Office. Students can choose to have their spring class ranking letter mailed to them if they provide the Front Office with a self-addressed, stamped envelope. Transfer students to the College of Law shall not be ranked with other UW students until they have completed two full-time semesters at UW (or a minimum of 24 UW credits). Students who visit out at other ABA accredited law schools or who graduate early are ranked based on their ranking at the end of their last semester at UW.

Experiential Learning Requirement

As a condition of graduation, each student must successfully complete no fewer than 6.0 credit hours in experiential learning courses. Experiential learning courses include a simulation course, a law clinic, or an externship field placement. Simulation courses provide substantial experience not involving legal representation of an actual client, that (1) is reasonably similar to the experience of a lawyer advising or representing a client or engaging in other lawyering tasks in a set of facts and circumstances devised or adopted by a faculty member; and (2) includes: direct supervision of the student's performance by

the faculty member; opportunities for performance, feedback from a faculty member, and self-evaluation; and a classroom instructional component (ABA Standard 303).

Typically students may fulfill the experiential learning requirement by successfully completing 6.0 credit hours in any of the following upper- class elective courses:

Advanced Appellate Advocacy (LAW 6520)
Advanced Legal Research (LAW 6990)
Advanced Oil & Gas Law (LAW 6992)
Advanced Persuasive Writing (LAW 6925)
Alternative Dispute Resolution (LAW 6915)
Business Planning (LAW 6560)
Civil Pretrial Practice (LAW 6565)
Clinic: Civil Legal Services (LAW 6930 or LAW 6931)
Clinic: Defender Aid (LAW 6932 or LAW 6930)
Clinic: Energy, Environ. & Natural Resources (LAW 6933 or LAW 6930)
Clinic: Family & Child Advocacy (LAW 6930 or LAW 6934)
Clinic: International Human Rights (LAW 6930)
Clinic: Prosecution Assistance (LAW 6930 or LAW 6936)
Contract Drafting (LAW 6935)
Estate Planning (LAW 6670)
Estate Planning Practicum (LAW 6937 or LAW 6930 or LAW 6915)
Externships (LAW 6960)
Interviewing, Counseling & Negotiation (LAW 6166 or LAW 6915)
Summer Trial Institute (LAW 6850)
Trial Practice (LAW 6850)

Note: classes may be removed from and/or added to this list each semester.

Grading

Grades are assigned on a plus/minus system. Grades of incomplete (I), and withdrawal (W), are disregarded. A required course in which a grade of F or W or U is received must be repeated. A course cannot otherwise be repeated without the consent of the faculty. If a course is repeated, both grades are included in computing the student's grade point average.

A 4.00	B + ...3.333	C+ 2.333
A- 3.667	B 3.000	C 2.000
	B- 2.667	C- 1.667

Satisfactory (S) or unsatisfactory (U) grading applies only if the course is offered on an S/U basis or a student takes a non-law graduate-level course as explained above. Students from other colleges who are permitted to take professional courses in the College of Law must take them for S/U credit. The grading scale is at discretion of the instructor for each course.

Mandatory Legal Writing Grade Policy: Under Law School policy, for each section of the Legal Writing I and II courses, the mean final grade for all students in the section must fall between 2.505 and 2.835. The range 2.505-2.835 falls around a B- (2.67), with the upper limit being halfway between a B- and a B and the lower limit being halfway between a B- and a C+.

Bar Exam Passage Rate Improvement Program

Students matriculating after August 2021, a student whose first-year GPA is in the bottom one-third of the class will be required to pass four of the following courses as a requirement of graduation: Business Organizations (or one of either Agency and Partnership or Corporations); Secured Transactions; Trusts and Estates; Criminal Procedure; Criminal Adjudication; Family Law; Constitutional Law II; or Real Estate Finance. During the fall and spring

semesters after the 1L year it is required to take at least one of these courses as a minimum each semester, until the requirement has been satisfied.

In order to graduate, a student whose first-year GPA is in the bottom one-third of the class will also be required to take and pass a law school-offered bar examination course as a 3L (typically in their final spring semester), unless for unanticipated reasons the College of Law does not offer that course in a particular year.

Curriculum

Required Courses: First (1L) Year Students (*Additional courses cannot be taken the first year without special permission from a dean***).**

Fall Semester

Civil Procedure I (6240) - 3

Contracts I (6110) - 3

Legal Research (6165) - 1

Legal Writing I (6160) - 3

Property I (6120) - 3

Torts I (6130) - 4

Spring Semester

Civil Procedure II (6340) - 2

Constitutional Law I (6250) - 3

Contracts II (6210) - 2

Criminal Law (6140) - 3

Legal Writing II (6260) - 2

Property II (6220) - 2

Required Courses: Second (2L) Year Students (offered once per year)

Evidence (6410) - 3

Professional Responsibility (6420) - 3

Elective Courses: Second (2L) & Third (3L) Year Students (* subject to availability)

See Law Courses section

Honor Code System

Students enrolled in the College of Law are engaged in a course of study leading to membership in the legal profession. The profession requires adherence to high ethical standards and the assumption by its members of responsibility for the maintenance of those standards. Accordingly, the College of Law has adopted an Honor Code addressing misrepresentations, theft, the use of library materials, the preparation of course work, and the conduct of examinations, along with procedures for alleged violations. A copy of the Honor Code is given to each new student who enters the College of Law. All students are governed by the Honor Code and are required to sign a pledge to abide by and be subject to the provisions of the code. See the Honor Code section of the handbook for more details.

Graduation with Honors

The degree of Juris Doctor is awarded with honors if the student achieves a grade point average of 3.400 or better on all resident credit in the College of Law.

Honor Roll

Students enrolled in a minimum of 12.0 semester hours of law courses carrying A-F grades, and who have no semester grades of incomplete (I), are eligible for the President's Honor Roll and the Dean's Honor Roll. Students with a semester average of 4.000 will be named to the President's Honor Roll. First-year students with a semester average of 3.250 or better and second-year and third-year students with a semester average of 3.400 or better will be named to the Dean's Honor Roll.

Minimum Hours

The College of Law does not permit students to attend on a part-time basis. Students are required to take the full load of required courses during their first two semesters and to carry at least 9 credit hours in law courses in each of the remaining semesters of law study. Notwithstanding, if a student has less than 9 credits remaining in their final semester of study, then said student may register for only the number of remaining credits (e.g. if a student only has 4 credits left to graduate, that student will only be required to register for 4 credits). First year students will be allowed to take less than the full load of required courses only if they present exceptional circumstances, as determined by the Dean or his/her delegate

Transfer Credits

The College of Law admits transfer students only in the fall of their second year. A student granted transfer admission may transfer credits earned in courses taken at another ABA-accredited law school toward a degree from the UW College of Law up to the number of credits that a traditional UW student would have earned during the student's first year at the University of Wyoming (31credits as of the 2020-21 academic year). In addition, University of Wyoming law students who visit out for a semester or full year may also transfer credits from other ABA approved law schools, as long as 59 credits are completed

at the University of Wyoming. The College of Law will also accept up to 15 hours of transfer credit from another ABA accredited school for an international student previously enrolled in an LL.M. or other post-J.D. program. To receive transfer credit from a course, a grade must be a "C" or better. Transfer credits are recorded on the JD transcript as an "S" (Satisfactory), instead of graded credits. All transfer credits must be approved by the Associate Dean of Academic Affairs in advance.

Withdrawing from a Course &/or the University

Failure to attend class or failure to pay tuition does not constitute withdrawal from a class or from the University. Students who pre-register for classes on WyoWeb will be assessed tuition and fees. Students who drop or withdraw from their last or only class for a given term after the end of the drop/add time period must also meet with the Assistant Dean of the College of Law and complete the official withdraw forms required by the Office of Registrar. Financial aid recipients who withdraw from courses or reduce credit hours must consult with a financial aid counselor regarding repayment of financial aid funds if applicable. For more complete details regarding deadlines, refunds, and cancellations, see the University's Accounts Receivable web page http://www.uwyo.edu/fsbo/accounts-receivable/

Exam Procedures and Policies

- Review the Honor Code before beginning the exam period. It applies to all examinations. If you have any questions about the materials allowed by a professor, please see the professor in advance of the exam.
- A copy of the final exam schedule will be posted on the web, please check dates and times carefully.
- We use exam numbers, rather than students' names, so that professors cannot

identify the students' exams they are grading. Exam numbers will be available in ExamSoft one to two weeks before the exam period. You must write this number on all of your exams and blue books, or as your identification number for typed exams. **DO NOT** write your name on your exam. Midterm exams and final exams have unique numbers. Save these numbers, as you will use the same number for all of your midterm and final exams respectively. New numbers are assigned each semester.

- All examinations must be: (A) written in ink in 8 1/2 x 11 size "blue books," OR (B) typed on the student's laptop using the ExamSoft software. Students provide their own blue books, pens or laptops. The law school will supply answer sheets and pencils for any multiple choice exams.
- If you are using a laptop:
- Examplify (SofTest) is operable for PC's and Mac's. Please reference this site for the most up to date Minimum System Requirements, Examplify: Minimum System Requirements - ExamSoft
- You must download the exam software (free for students) well in advance of the exam day.
- Have your laptop set up and the software running in the designated room before the time to begin the exam.
- Instructions for using the ExamSoft Examplify (SofTest) software are available at the Examsoft website (use Chrome or Firefox ONLY).
- If you experience any problems with your computer during the exam, come to the front office immediately and someone will assist you.
- Once you complete the exam, and have turned in your exam questions, be sure you receive the "upload successful" message to assure that your exam answers have been transmitted.

6. All exam reschedules must be approved by COL Assistant Dean, Lindsay Hoyt or the Registrar. You must meet the criteria published within the exam schedule to reschedule an exam, i.e., two exams on one day, three exams in three days, or four exams in five days. Fill out the exam reschedule request form and turn it into

COL Registrar, Dave Bluemel. Please note, that if possible, an elective will be rescheduled rather than a large required class, and rescheduled to a later, rather than an earlier date.

7. Students who are handwriting their exams must return the exam questions and blue books to a staff member in the lobby outside the Dean's office at or before the time indicated on the exam. Laptop users should exit the exam software and turn in the exam questions to a staff member at or before the time indicated. It is your responsibility to determine the precise time the exam is to be returned and to ensure that you meet the deadline. Use the clock in the exam room for reference, not the clock that may appear on your computer or the time on your wristwatch.

8. During the exam, turn off (or leave outside the room) all cell phones, smart watches, pagers, and PDA's. Do not leave them on vibrate, as this may be disturbing to other students.

9. When you finish your exam, please be courteous/quiet as you gather your belongings and leave the exam room. You MAY NOT return to the room to gather your belongings after you have turned in your exam, unless it is after the collection time indicated on the exam. **B**e aware that students are taking exams in both the morning and the afternoon and are taking exams that have differing ending times -- so please curb your talking in the classroom areas and halls during the administration of exams.

10. If you cannot take the exam at the set time due to illness, or other emergency, you must notify Assistant Dean Lindsay Hoyt, as soon as possible, prior to the exam and be prepared to supply appropriate documentation.

11. Final grades will be available on WyoWeb. No grades will be given over the telephone.

Final Exam Reschedule Policy

No student is required to take exams in the following circumstances as long as they submit a reschedule form two weeks prior to the first day of exams:

- two exams on one day
- three exams in three consecutive days
- four exams in five consecutive days

Students who have six final exams cannot be provided relief due to the limited number of exam days. Efforts will be made, however, to distribute the six exams so as to avoid three in a row. A student who meets the above criteria must see Assistant Dean Lindsay Hoyt to reschedule. Exams are not normally rescheduled outside of the regular exam period.

Disability Assistance

The University of Wyoming College of Law is committed to making its programs accessible to individuals with disabilities and ensuring a robust academic experience for all students. The College of Law works closely with the Disability Support Services office on the University's main campus to coordinate a variety of services for students with disabilities. The Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 guarantee equal access to programs and services to those with disabilities. In order to be a qualified individual subject to the protections of these Acts, a person must demonstrate that he or she has a disability that substantially limits a major life activity (e.g., seeing, hearing, walking, breathing, performing manual tasks, learning, caring for oneself, and working) and, as such, requires a reasonable accommodation in order to have equal access. This section of the College of Law's policies explains a student's rights and responsibilities in seeking to receive accommodations from the College of Law because of a disability. The process and procedures outlined here apply to law school classroom accommodations, exam accommodations, and accommodations related to accessing the University's facilities.

- **Rights and Responsibilities in Requesting Reasonable Accommodations**
  - **Accommodation Request Deadlines**
    - The deadlines for students requesting accommodations is 2 weeks before the start of the academic year or semester for classroom and exam accomodations.
    - Extensions to these deadlines may be granted to students who were unable to meet the deadline due to extenuating circumstances. Accommodations are prospective; retroactive accomodations are not available. For this reason, it is important that the student timely submit requests for accommodations.

B. Accommodation Process and Procedure for Classroom and Exam Accomodations

1. A student who believes

that he or she has a qualifying disability warranting accommodation for academic programs, exams or access to the University's facilities should submit

their requests for accommodations through the University of Wyoming's Disability Support Services (DSS), by contacting udss@uwyo.edu or 307

766-3073 or applying through the website found here: https://www.uwyo.edu/udss/.

2. The DSS application process is required and separate from

any communication with College of Law staff. Students *should not* go directly to any faculty in an effort to arrange accommodations for disabi

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by the University. As a general rule, when feasible, student anonymity will be maintained.

8. For any exam condition accommodations, DSS will

notify the Assistant Dean of the College of Law who will oversee the implementation of the accommodation. DSS will also notify any other law sch

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the Assistant Dean of the College of Law will oversee implementation of the accommodations and notify the faculty of the particular course if the accom

modations provided affect the conduct of the class.

10. If a student is denied eligibility for DSS or requested reasonable accommodations, the student ma

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for more information. The Vice President for Student Affairs may consult with the Dean of the College of Law prior to making a final determination.

II. Rights and Responsibilities of the Student after Receiving Classroom and Exam Accommodations

- A student must renew his or her request for accommodations each semester by meeting with DSS in order to determine whether new and different accommodations are necessary for the student's disability to be accommodated. Requests for classroom and exam accommodations must be made two weeks prior to the beginning of the semester. At these meetings, DSS may

request that the student submit updated documentation verifying the nature and extent of the student's disability.

- If a student's condition changes at any time, thereby affecting the nature and extent of his or her disability, the student must notify the DSS immediately and DSS will consult with the Assistant Dean of the College of Law, as the designated liaison for the College to engage in the interactive process set forth in section I(B)(4).
- If there is a problem with any accommodations that a student receives,

whether it is related to a course, an exam, or access to a facility, the student must promptly notify DSS who will coordinate with the Assistant Dean of the College of Law so that steps may be taken, to the extent practicable, to resolve the problem.

- Communication via accommodations (including exam schedules and room assignments) will be made using the student's email account. A student is responsible for checking email on a timely basis to determine the status of any issue relating to the

accommodation that has been put in place for a particular disability. If the student's disability prevents physical access to email, an alternative method of communication will be determined in consultation with DSS, the College of Law, and the student.

III. Requests for Accommodations Related to the College of Law Fa

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Any requests for disability accommodations related to the Coll

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Credit Hours

In accordance with ABA Standard 310, one credit hour requires an amount of classroom or direct faculty instruction that is at least equivalent to fifty minutes

per week for fifteen weeks (including one week for a final exam), as well as an amount of out-of-class student work that reasonably approximates two hours per week for fifteen weeks (including one week for a final exam). One credit hour for other academic activities, including simulation, field placement, clinical, co-curricular, and other academic work, requires at least an equivalent amount of work.

The College of Law faculty establishes and approves the number of credit hours

awarded for each newly approved course. New course proposals must indicate both the in-class and out-of-class work that justifies the credit hours to be awarded. The curriculum committee will initially review existing courses to determine that classroom and out-of-class work meet the requiremen ts for the awarded credit hours. The Associate Dean will thereafter periodicall y review course description s and syllabi to ensure that classroom and out-of-class work continue to meet the requiremen

ts for the awarded credit hours.

Bar Subjects

Wyoming has now adopted the Uniform Bar Exam, as has Colorado. Information about both bar exams can be found on the National Conference of Bar Examiners (NCBE) webpage (http://www.ncbex.org/).

DISCLAIMER: It is your responsibility to check with the Board of Law Examiners in each state in which you plan to take the bar exam for the latest information regarding bar examination subjects, application procedures, and

deadlines, etc. We encourage students to begin the application process to take a bar exam well in advance. Some states provide reduced fees if students register within 15 months of entering law school.

Clinics & Practicums

For students matriculating in the fall 2016 semester and after, students are limited to a maximum of 9.0 credit hours of clinic credits. Clinic directors are allowed a maximum of 12.0 credit hours. Students will further be limited to a combined

maximum of 12.0 credit hours total for clinic credits and externship credits. Clinic directors are limited to a combined maximum of 15.0 credits total for clinic credits and externship credits.

The College of Law offers six clinical programs and one practicum: Civil Legal Services; Defender Aid; Business Law Practicum; Estate Planning Practicum, Family Law; International Human Rights; and Prosecution Assistance. The clinical programs operate pursuant to Wyoming Supreme

Court rules that permit third-year law students to practice law under the supervision of a COL professor or Wyoming Bar member. A student director is appointed for each program to help the faculty supervisor administer the program. (Wyoming Supreme Court, Rule 9)

The caseload of each clinic consists of actual cases and matters in Wyoming, the region, and even around the world. The Wyoming student practice rule allows student interns to make court appearances with the consent of the client.

There is no simulation. The faculty supervisor is professionally responsible for the students in the program. Therefore, particular emphasis is placed on professional responsibility to the client, the profession, and the community. The response of the courts to students has been enthusiastic, both on and off the bench, and in trial and appellate courts.

Each clinical and practicum program is designed to expose students to a wide range of real experience in the practice of law. The programs are available

during the academic year to third-year students and during the summer between the student's second and third years of law school. Third-year spring semester students who have not previously taken a clinic or practicum will receive a preference over those seeking a second semester in the clinic or practicum.

Students receive three credit hours per semester, are graded, and are generally required to devote a minimum of 150 hours to the program. Enrollment in the clinical

programs may be limited in the interest of affording students maximum educational benefit. However, the College of Law will make sure that every interested student gains experience through a clinic, practicum, or other experientia l opportunity .

Third Year Students Note: Clinic credit and externship credit may not be earned in the same semester, unless the student obtains permission from both the clinic faculty director and the externship faculty director, as well as the associate

or assistant dean.

For more information on the clinic and practicum offerings, please see Legal Clinics at http://www.uwyo.edu/law/experiential/clinics/ and Estate Planning Practicum at http://www.uwyo.edu/law/experiential/practicums/.

Course Descriptions

You can find detailed course descriptions, which will be updated for each semester, on the law school website at COURSE DESCRIPTIONS (http://www.uwyo.edu/law/current/courses/courses.html). Click on the course name, and

you will be able to view a detailed course description that will include informatio n about the course, the instructor name, the semester offered, and the assessment method (e.g., exam, performanc e of skills, or paper).

Externship s

For students matriculati ng in the fall 2016 semester and after, students are limited to a maximum of 6.0 credit hours of externship credits. Students will further be limited to a combined maximum of 12.0 credit hours total for clinic credits and

externship credits. Clinic directors are limited to a combined maximum of 15.0 credits total for clinic credits and externship credits.

The externship program provides second and third year students with an opportunity to learn through practice by working directly with attorneys or judges for academic credit. Externship placements are limited to judges, governmen t agencies and nonprofit organizatio ns, and must be pre-approved by the externship faculty director. A student

may also seek externship credit by volunteering for a judge, government agency or nonprofit group that fits the criteria for externship placement but is not currently on the pre-approved list. In that case, the supervising attorney or judge must submit a proposal to the externship faculty director, for approval on a case-by-case basis. This should be done well ahead of the time that the student begins work.

For two hours of credit a student is required to work 100 hours; for three hours of credit a student is

required to work 150 hours. Students may apply for one unit of credit under limited circumstances and only with the prior approval of the externship faculty director. All externs must complete a writing component as part of the program requirements. The writing does not satisfy the advanced writing requirement. Grades are awarded S/U only. A student may earn a maximum of 3 hours of externship credit per semester; provided that a student may earn a maximum of 6 credits in a summer

semester. Again, a student is limited to a total of 6 hours of credit for externships in their academic career. Externs must pay their own travel expenses. Students must register for summer externship credits in the summer session. If you are accepted for an externship, you will need to register for the appropriate number of credits for an externship course, LAW 6960. There will be an online component of the externship program.

Third Year Students Note: Externship credit and

clinic credit may not be earned in the same semester, unless the student obtains permission from both the clinic faculty director and the externship faculty director, as well as the associate or assistant dean.

For a list of currently approved externship offerings and the externship application please see Legal Externships at http://www.uwyo.edu/law/experiential/legal-externships/index.html.

Joint Degree Programs

JD/MA in ENR Program

A joint Juris Doctor/Ma

ster of Arts of Environment and Natural Resources degree is available to all admitted law students upon application .The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. Students in this joint degree program must take 18 credits outside the law school in ENR courses, and must take 12 law school credits from a menu of ENR-related law courses to qualify for this joint degree. Students in this joint degree program

must be enrolled in a minimum of 9 hours of law course work in every fall and spring semester. Students in the joint degree program must also complete a supervised research project. Additionally, nine (9) credits of approved MA coursework (see Academic Regulations) will be applied to the Juris Doctor degree. Current core courses: ENR 5100, ENR 5900, ENR 5890, ENR 5750.

JD/MBA Program

A joint Juris Doctor/Master of Business Administration program is available in the College

of Law and the College of Business. This program will take approximately four years to complete. Students spend three years on-campus engaged in law studies. Typically in their second year, students will be enrolled full-time in the MBA Program, taking required core business courses during the Fall, Spring, and Summer as well as participating in additional required program activities (orientation, Experiential Leadership Program, Jackson Leadership Summit, MBA

Executive Speaker Series, Professional Development activities, etc.). The MBA Capstone course will be the final course completed in the summer term for a total of 36 MBA program credits. Nine (9) credit hours of approved coursework will be transferred as elective hours to the Juris Doctor degree. Students successfully completing this lock-step program will earn dual Juris Doctor and Masters of Business Administration degrees. The degrees are awarded concurrently by each college

upon successful completion of the combined degree program requirements. Current core courses: MBAM 5102, MBAM 5104, MBAM 5107, MBAM 5202, MBAM 5204, MBAM 5207, MBAM 5208, MBAM 5209, MBAM 5305, MBAM 5330.

JD/MPA Program

A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of Law and College of Arts and Sciences. The degrees are

awarded concurrently by each college upon successful completion of the combined degree program requirements. Students in this joint degree program must be enrolled in a minimum of 9 hours of law course work in every fall and spring semester. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty. In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in specified

courses in the J.D. program. Current core courses: POLS 5000, POLS 5400, POLS 5410, POLS 5440, POLS 5684, POLS 5510, POLS 5690, POLS 5080, POLS 5060, POLS 5450, POLS 5460, POLS 5480.

Non professional Degree Students

Graduate students from other colleges of the University of Wyoming may be permitted to take one or more elective law courses on an S/U basis for non-law credit when the following conditions are met: the law course taken is acceptable for their degree program and the prior written approval of the professor assigned to the course and the Associate Dean or Assistant Dean has been obtained. In order to obtain audit or visitor privileges, students must obtain prior

written approval of the professor assigned to the course and the Associate Dean or Assistant Dean. Any one that is not a matriculated law student cannot take the seat of a law student in any given law course and may be administratively dropped in order to make room for interested law students. For further information and requirements contact the Associate Dean of Academic Affairs, College of Law, Dept. 3035, 1000 E. University Ave., Laramie, WY 82071.

Course descriptions may be

obtained online at www.uwyo.edu/law.

Graduate

Juris Doctor

The goal of the College of Law is to provide a sound and thorough education in the law that will prepare the student to practice law in accordance with the highest standards of professional competence and responsibility.

Curriculum

Overall Hours

For students matriculating in or

after the fall 2013 semester, each student must successfully complete (grade of "D-" or better for courses taken at this school, grade of "C" or better for courses taken elsewhere) 90 credit hours (required for graduation) in accordance with the official curriculum as adopted by the College of Law faculty. At least 59 of these credits must be completed at the University of Wyoming College of Law.

The College of Law automatically approves up to 9 hours of

any joint degree core courses with the correspond ing prefix to their joint degree (i.e. MBAM, POLS, ENR) that meet the grade requiremen t, of a letter grade of B or better, to transfer in toward their law degree. If additional courses are needed outside of these respective prefixes, these will be approved on a case by case basis. Tho se students enrolled in a joint degree program may take up to 9 hours required for graduation in non-law school graduate level courses (online courses will not be

approved) and apply them toward their law degree.

Law A-F hours

Regardless of the matriculation date, students must complete at least 76 credit hours through graded (A-F) courses.

Those students enrolled in a joint degree program may take up to 9 hours required for graduation in

non-law school graduate level courses (online courses will not be approved) and apply them toward their law degree. Students in a joint degree program who use 9 non-law credit hours toward their J.D. degree may reduce their required number of graded credits from 76 to 73 so that they

can participate in other S/U offerings at the College of Law.

Required Courses: First (1L) Year Students

(Additional courses cannot be taken the first year without special permission from a dean).

Fall Semester

- LAW 6240 - Civil Procedure I Credits: 3
- LAW 6110 - Contract I Credits: 3
- LAW 6165 -

Legal Research Credits: 1

- LAW 6160 - Legal Writing I Credits: 3
- LAW 6120 - Property I Credits: 3
- LAW 6130 - Torts I Credits: 4

Spring Semester

- LAW 6340 - Civil Procedure II Credits: 2
- LAW 6250 - Constitutional Law I Credits: 3
- LAW 6210 - Contracts II Credits: 2
- LAW 6140 - Criminal Law Credits: 3
- LAW 6260 - Legal Writing II Credits: 2
- LAW 6220 - Property II Credits: 2

Required Courses: Second (2L) Year Students

(offered once per year)

- LAW 6410 - Evidence Credits: 3
- LAW 6420 - Professional Responsibility Credits: 3

Experiential Hours

Each student must successfully complete no fewer than 6.0 credit hours in experiential learning courses:

- LAW 6166 - Interview, Counseling and

Negotiation Credits: 3

- LAW 6560 - Business Planning Credits: 3
- LAW 6565 - Civil Pretrial Practice Credits: 3
- LAW 6670 - Estate Planning Credits: 2
- LAW 6850 - Trial Practice Credits: 3
- LAW 6930 - Legal Clinic Credits: 2-3
- LAW 6931 - Clinic: Civil Legal Services Credits: 3
- LAW 6932 - Clinic: Defender Aid Credits: 3
- LAW 6933 - Clinic: Energy, Environment and Natural Resources Credits: 3

- LAW 6934 - Clinic: Family and Child Advocacy Credits: 3
- LAW 6935 - Contract Drafting Credits: 3
- LAW 6936 - Clinic: Prosecution Assistance Credits: 3
- LAW 6937 - Estate Planning Practicum Credits: 3
- LAW 6960 - Legal Externships Credits: 1-3
- LAW 6925 - Advanced Persuasive Writing Credits: 3
- LAW 6992 - Advanced Oil and Gas Law Credits: 3

Advanced Writing

As a condition

of graduation, all students must complete an upper-level writing requirement.

Elective Courses:

Second (2L) & Third (3L) Year Students (* subject to availability);

See Law Courses section

Juris Doctor/Master of Arts in Environment and Natural

Resources

Students working toward the J.D./M.A. in ENR consult a Haub School advisor to design a program of study tailored to meet their educational goals.

Academic Regulations

A joint Juris Doctor/Master of Arts of Environment and Natural Resources degree is available to all admitted law students upon application. Students in this joint degree program must take 18 credits outside the law school

in ENR courses, and must take 12 law school credits from a menu of ENR-related law courses to qualify for this joint degree. Students in the joint degree program must also complete a supervised research project. Additionally, nine (9) credits of approved MA coursework (see Academic Regulations) will be applied to the Juris Doctor degree. Current core courses: ENR 5100, ENR 5900, ENR 5890, ENR 5750.

Juris Doctor

The Juris Doctor requirements are found

here: Juris Doctor

Environmental & Natural Resources, J.D./M.A.

Here is where you will find the requirements for the Environment & Natural Resources, J.D./M.A.

Juris Doctor/Master of Business Administration

The Juris Doctor/MBA program offered with the UW

Colleges of Law and Business provides students with a high ROI. Optimize time and money spent by pursuing this dual program and tapping into quality education, networking, and career possibilities.

Academic Regulations

A dual Juris Doctor/Master of Business Administration program is available in the College of Law and the College of Business. This program will take approximately four years to complete. Students spend three years on-campus

engaged in law studies. In their second year, students will be enrolled full-time in the MBA Program taking required core business courses during the Fall, Spring, and Summer as well as participating in additional required program activities (orientation, Experiential Leadership Program, Jackson Leadership Summit, MBA Executive Speaker Series, Professional Development activities, etc.). The MBA Capstone course will be the final course completed in the

summer term for a total of up to 36 MBA program credits. Nine (9) credit hours of approved coursework will be transferred as elective hours to the Juris Doctor degree and up to six (6) credit hours of approved coursework will be transferred as elective hours to the MBA degree. Students successfully completing this dual program will earn dual Juris Doctor and Masters of Business Administration degrees.

Current Core Courses:

- MBAM 5101 -

MBA Foundations Credits: 1

- MBAM 5102 - Operations Management Credits: 3
- MBAM 5104 - Organization Behavior and Human Resource Management Credits: 3
- MBAM 5107 - Executive Leadership I Credits: 1
- MBAM 5202 - Data and Decision Modeling Credits: 3
- MBAM 5204 - Financial Management Credits: 3
- MBAM 5207 - Marketing Management Credits: 3
- MBAM 5208 - Accounting for Managers Credits: 3
- MBAM 5209 -

Executive Leadership II Credits: 1

- MBAM 5305 - Strategic Management Credits: 3
- MBAM 5330 - Global Business Environment Credits: 3

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

MBA

Here is where you will find information on the Business Administration, M.B.A.

Juris Doctor/Master of Public

Administration

The Master's in Public Administration degree offered at the University of Wyoming is considered an ethics basedprogram where complicated issues of administrative decision making are the hallmarks of professional life.

Academic Regulations

A student in the joint Juris Doctor/Master of Public Administration program must be admitted to both the College of

Law and College of Arts and Sciences. The degrees are awarded concurrently by each college upon successful completion of the combined degree program requirements. In fulfillment of the J.D. degree, the College of Law will accept up to nine hours of MPA credits in courses approved by the law faculty (see Academic Regulations). In fulfillment of the MPA degree, the College of Arts and Sciences will accept up to 12 hours of credits earned in specified courses in the J.D. program. For additional

information regarding these joint degree programs, contact the College of Law or the joint program of interest.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

MPA/JD

Here you will find information on the Public Administration (MPA/JD)

Armed Forces Services

LTC Paul W. Hanson, Commander, Army ROTC
Lt Col John D. Sieps, Commander, Air Force ROTC

It has been the consistent policy of the university in cooperation with the federal government to make courses in military science and aerospace studies available on a voluntary basis to all qualified students.

Academic credits for Army and Air Force Reserve Officers' Training Corps (ROTC) are applied toward baccalaureate and graduate degrees in varying

amounts depending upon the degree plan of the student and as determined by the college concerned.

Minor

Aerospace Studies Minor

Air Force ROTC offers an Aerospace Studies minor.

The 24 credit hours required to accomplish the Aerospace Studies minor will effectively complimen t many majors, provide a sound basis for future professiona l developme nt, and

increase the career opportunities of a UW graduate.

Minor Requirements

For the Aerospace Studies minor, the student must complete the core AFROTC program plus:

- 3 credit hours in any Management (MGT) course in the current UW catalog **AND**
- 3 credit hours in one Political Science (POLS) course listed below **OR**
- 6 credit hours of Political Science courses listed below.

Political Science

- POLS 1200 - Non-Western Political Cultures Credits: 3
- POLS 2200 - Politics of Europe Credits: 3
- POLS 2290 - Governments and Politics of Latin America Credits: 3
- POLS 2300
- POLS 2310 - Introduction to International Relations Credits: 3
- POLS 3220 - Government and Politics of Russia and FSU Credits: 3
- POLS 3270 - Governments and Politics of the Middle

East
Credits: 3

- POLS 3300 - Model United Nations
Credits: 1-3
- POLS 4220
- POLS 4230 - Governments and Politics of Asia
Credits: 3
- POLS 4255 - Politics of Developing Nations
Credits: 3
- POLS 4300
- POLS 4340 - International Organizations
Credits: 3
- POLS 4360 - International Peace and Conflict
Credits: 3
- POLS 4870 - Seminar in International Relations
Credits: 3

Army ROT

C Military Science Minor

The military science minor, encompassing 22 credit hours, will prepare selected students for commissioning and establish a sound basis for their future professional development.

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

Minor Requirements

Army ROTC offers a military science minor. Effective with the Fall 2015 semester, the requirements for a minor in military science are as follows:

- ARMY 3010 - Training Management & Warfighting Functions Credits: 1
- ARMY 3020 - Applied Leadership in Small Unit Operations Credits: 3
- ARMY 3025 - Conduct of Training Credits: 1
- ARMY 3026 - Assessment of

Training Credits: 1

- ARMY 3030 - Practicum in Leadership Credits: 3
- ARMY 4010 - The Army Officer Credits: 1
- ARMY 4020 - Company Grade Leadership Credits: 2
- ARMY 4015 - Staff Officer Practicum I Credits: 1
- ARMY 4016 - Staff Officer Practicum II Credits: 1
- ARMY 4025 - Principles of Training Management Credits: 1
- ARMY 4026 - Preparation of Training Credits: 1
- HIST 2020 - American Military

History
Credits: 3

OR

- HP 4900
Credits: 3

Total Credit Hours: 22

Haub School of Environment and Natural Resources

Helga Otto

Haub School of Environment and Natural Resources

John Koprowski, Dean
Bim Kendall House, 804 E. Fremont St.

Phone: (307) 766-5080 FAX: (307) 766-5099
Web site: www.uwyo.edu/haub

Degrees Offered

The Haub School offers undergraduate and graduate degrees, concurrent majors and minors, certificates, and a graduate degree in partnership with the College of Law:

Bachelor of Science in Environmental Systems Science (for baccalaureate students)

Bachelor of Science in Environment & Natural Resources (for baccalaureate students, required concurrent major)

Environment & Natural Resources concurrent major (for baccalaureate or master's students earning a degree from UW)

Bachelor of Science in Outdoor Recreation & Tourism Management (for baccalaureate students)

Environment & Natural Resources minor (for baccalaureate, master's, and doctoral students)

Sustainability minor (for baccalaureate students)

Outdoor Leadership minor (for baccalaureate students)

Master of Science in Environment, Natural Resources & Society (for master's students)

Master of Arts in Environment & Natural Resources (J.D./M.A. for law students only)

Collaborative Practice minor (for master's and doctoral students)

Program Admission

Undergraduate students will apply for admission to the University of Wyoming, and then declare a

major or minor within the Haub School at any point during their course of study. To declare a major or minor, students must meet with a Haub School academic advisor.

Graduate students interested in the concurrent major or minor in Environment & Natural Resources (ENR) will apply for admission to a primary degree program at the University of Wyoming. Once accepted to their primary graduate program, students must complete an additional

online process to confirm their enrollment in the ENR major or minor. A one-page Statement of Purpose is required to apply. Visit the Haub School website at https://www.uwyo.edu/haub for details.

Applicants to the M.S. in Environment, Natural Resources & Society must apply to the University of Wyoming. Applications for graduate assistantships should be directed to the Haub School. Current application requirements are available online.

Applicants to the J.D./M.A. in ENR must apply

to both the College of Law and the Haub School. Admission to the joint degree program is contingent on acceptance to the College of Law. Current application requirements are available online.

More information, including complete curricula for each academic offering, is available from the Haub School.

Haub School Requirements for Unde

rgraduate Programs

All students declared in undergraduate Haub School programs, including majors and minors, must earn a C or better in all Haub School program requirements. Students enrolled in multiple Haub School programs must earn 12 credits unique to each program.

Undergraduate students earning a B.S. in Environmental Systems Science, a B.S. in Outdoor Recreation & Tourism Management, and/or a

B.S. in Environment & Natural Resources (plus a concurrent major in another field) must also fulfill the additional following Haub School Requirements:

- Complete two courses (totaling a minimum of 6 credit hours), one to meet the U.S. Diversity (ASD) requirement and one to meet the Global Awareness (ASG) requirement. Courses approved to meet these requirements are searchable within WyoRecords under the Browse Classes feature.

- Meet all University

of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program (USP) requirements and maintaining a minimum 2.0 cumulative GPA for good academic standing and graduation.

Major

Environment & Natural Resources, B.S. or Concurrent

Major

Environment & Natural Resources (ENR) students will gain depth and breadth across a range of interdisciplinary fields that engage with complex ENR ideas and challenges, with the goal of integrating across fields of study.

Degree Program Requirements

This major requires a minimum of 44 credits (primary) or 38 (concurrent), <variable> of which

are upper-division credits. All undergraduate students in ENR complete their coursework in conjunction with another major in any discipline. See "An Approved Major in Any Discipline" section for more details. Students must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to graduate from UW.

University Studies

Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitati

ve Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Overview

Students can choose to pursue:

- a concurrent major in ENR, earned alongside an approved baccalaureate degree in any other discipline, or
- B.S. in ENR, earned alongside an additional major in any other discipline.

The ENR curriculum is designed to prepare students to demonstrate learning in six key areas:

- Specialization & Integration - Students will complement their disciplinary depth with broad exposure to ENR-related disciplines and

approaches
.
- Spatial & Temporal Perspectives - Students will understand the temporal and spatial characteristics of ENR challenges.
- Policy - Students will recognize the content and implications of past and current ENR policies.
- Cultures & Values - Students will appreciate the diversity of ENR perspectives and experiences, including the role of personal and collective value systems and structural inequalities in shaping those systems.
- Complexity, Risk, &

Uncertainty - Students will understand that ENR problems inherently involve complexity, risk, and uncertainty.

- Professional & Academic Skills - Students will acquire specific skills necessary to succeed in a range of ENR professions and/or graduate and professional school, especially proficiency in written and oral communication, applied problem solving, and collaboration.

All undergraduate students in ENR complete their coursework in

conjunction with another major in any discipline.

17+ Credit Hours of ENR Core Courses

Foundations of Environmental Studies

- ENR 1010 - Thinking Like a Mountain: complex environmental challenges and interdisciplinary solutions Credits: 1

Foundations of Enviro

nmental Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Environment & Society

- ENR 2000 - Environment and

Society
Credits: 3

Approaches to Problem Solving

- ENR 3000 - Approaches to ENR Problem Solving
Credits: 3

Environmental Assessment

- ENR 4900 - Capstone in ENR
Credits: 3

Professional Development (1 Credit Min. S/U Grading Only)

- ENR 4970 -

ENR Internship Credits: 1-6

Satisfactory completion of a professional and applied experie

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21+ Credit Hours of ENR Disciplines Courses

Courses taken to satisfy one discipline cannot apply toward another.

Cultures & Values

(Choose one course):

- ENR 2330 - Environmental Ethics Credits: 3
- PHIL 2330 - Environm

ental Ethics Credits: 3

- AMST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3050 - Cultures of Nature in the United States Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental

Justice Credits: 3

- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4030 - Ecology of Knowledge Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3
- HIST 4412 - Global Environment

History Credits: 3

- GWST 4450 - Ecofeminism Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3
- COJO 4700 - Media, Science, and Society Credits: 3
- ENR 4700 - Media, Science, and Society Credits: 3

Economics

(Choose one course):

- ECON 2400 - Economics of the Environment Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- ECON 3400 -

Energy Markets & Policy Credits: 3

- ERS 3400 - Energy Markets & Policy Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ENR 4560 - Conservation

Entrepreneurship
Credits: 3

Environmental Management

(Choose one course):

- REWM 2000 - Principles of Rangeland Management
Credits: 3
- ENR 2100 - Forest Management
Credits: 3
- RNEW 2100 - Forest Management
Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene
Credits: 4
- ZOO 2450 - Fish and Wildlife Management in the Anthropoc

ene
Credits: 4

- ERS 3010 - Air Quality Management Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CE 4430 - Green Chemistry

and Global Environmental Problems Credits: 3

- CHE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ENR 4570 - Climate Change Responses Credits:
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3

Data Analysis

(Choose one course):

- GIST 2140 - Survey of Remote Sensing

Applications
Credits: 3

- GIST 2200 - Spatial Data Visualization
Credits: 3
- GIST 2310 - Intro to Geographic Information Systems
Credits: 4
- STAT 3050 - Statistical Methods
Credits: 3
- GIST 3140 - Introduction to Remote Sensing
Credits: 3
- ESS 4001 - Analysis of Nature's Data
Credits: 3
- GIST 4211 - Advanced Remote Sensing
Credits: 3
- ENR 4525 - Environmental Data Analysis
Credits: 4
- GEOL 4525 - Environmental Data

Analysis
Credits: 4

- AGEC 4550 - Negotiation Analysis
Credits: 3
- ENR 4550 - Negotiation Analysis
Credits: 3
- GIST 4130 - Applied Remote Sensing
Credits: 3
- PLNT 4130 - Applied Remote Sensing
Credits: 3
- RNEW 4130 - Applied Remote Sensing
Credits: 3
- REWM 4600 - Drone-Based Remote Sensing
Credits: 3

Physical & Natural Science

(Choose one course):

- ATSC 2100 - Global

Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3

- ENR 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- ENR 3130 - Environmental Quality Credits: 3
- SOIL 3130 - Environmental Quality Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- ENR 3450 - Weather and Climate Credits: 3
- GEOG 3450 - Weather

and Climate Credits: 3

- GEOL 3450 - Weather and Climate Credits: 3
- ESS 3480 - Environmental Change Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3

- GEOG 4460 - Biogeography Credits: 3

Policy

(Choose one course):

- ECON 3400 - Energy Markets & Policy Credits: 3
- ERS 3400 - Energy Markets & Policy Credits: 3
- AMST 4051 - Environmental Politics Credits: 3
- ENR 4051 - Environmental Politics Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- REWM 4051 - Environmental

Politics
Credits: 3

- AMST 4052 - Federal Land Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- REWM 4052 - Federal Land Politics Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- INST 4455 - Energy Security Credits: 3
- POLS 4455 -

Energy Security
Credits: 3

- INST 4475 - Politics of Natural Resources in Latin America
Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America
Credits: 3
- ERS 4482 - Global Climate Governance
Credits: 3
- GEOG 4555 - Political Ecology
Credits: 3
- INST 4555 - Political Ecology
Credits: 3
- POLS 4555 - Political Ecology
Credits: 3
- ENR 4750 - ENR Law and Policy
Credits: 3
- ENR 4590 - Green Criminology
Credits: 3

- CRMJ 4590 - Green Criminology Credits: 3
- SOC 4590 - Green Criminology Credits: 3

ENR Electives

(Select from the following, minimum three credits required):

Any course with code ENR 1000-4999, not already used above. Be cautious of cross-listed offerings as you cannot receive duplicate credit.

An Approved Major in Any Discipline

All undergraduate students in ENR complete their coursework in conjunction with another major in any discipline.

Students can choose to pursue:

- a concurrent major in ENR, earned alongside an approved baccalaureate degree in any oth

er discipline, or

- B.S. in ENR, earned alongside an additional major in any other discipline.

6+ Credit Hours of Haub School Requirements Cours

es (for B.S. ENR only)

Students earning a B.S. in ENR with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity (choose one course)
2. Global Awareness (choose

one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor(s) if needed to meet minimum credits to earn a B.S. in ENR (minimum 120 credits, including 42 upper division credits) or to meet primary degree requirements.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - in-cluding Haub

School U.S. Diversity and Global Awareness courses, and degree, major, and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;
- meet University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Environme

ntal Systems Science, B.S.

Environmental Systems Science (ESS) is an interdisciplinary undergraduate degree in environmental science, focusing on the interactions between the various components of Earth and environmental systems.

Degree Program Requirements

This major requires a minimum of 58 credits

(primary) or 52 (concurrent), <variable> of which are upper-division credits. All undergraduate students in ESS complete their coursework in conjunction with another major or minor. See "18+ Credit Hours in an Approved Minor or Concurrent Major" section for more details. Students must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to graduate from UW.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3

- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Overview

Students earning a B.S. in Environmental Systems Science will:

- demonstrate a knowledge of interdisciplinary perspective and integrative thinking,
- understand physical and biological components of environmental systems, including the human component;
- design, conduct, and interpret scientific investigations,
- understand the ethics of scientific

investigation,

- demonstrate proficiency in data collection, statistical analysis, and use of information technology tools and modeling;
- apply systems concepts to problems concerning environmental systems and their components, and construct conceptual and quantitative systems models;
- examine spatial, temporal, and spatial-temporal patterns in environmental systems, and use information technology tools to depict, project, and communicate such patterns.

17+ Credit Hours of Foundations Courses

Intro to Systems Science

- ESS 1000 - Wyoming in the Earth System Credits: 3

Foundation of Biological Sciences

(Choose one course):

- PLNT 1000 - Agroecology Credits: 4
- LIFE 1010 - General

Biology Credits: 4

- ENR 1200 - Environment Credits: 4

Foundation of Earth Sciences

(Choose one course):

- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Chemistry

(Choose one course):

- CHEM 1000 - Introductory Chemistry Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4

Foundations of GIST

(Choose one course):

- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- GIST 3140 - Introduction to Remote Sensing Credits: 3

15+ Credit Hours

of Spheres Courses

Courses taken to satisfy one sphere cannot apply toward another.

Anthrosphere

(Choose one course):

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- ENR 3950 -

Environmental Sociology Credits: 3

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4030 - Ecology of Knowledge Credits: 3
- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4310 - Environmental Anthropology Credits: 3

- ENR 4412 - Global Environment History Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- ENR 4570 - Climate Change Responses Credits:

Atmosphere

(Choose one course):

- ATSC 2000 - Introduction to Meteorology Credits: 4
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- ATSC 2200 - Severe

and Unusual Weather Credits: 3

- ERS 3010 - Air Quality Management Credits: 3
- ENR 3450 - Weather and Climate Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOL 3450 - Weather and Climate Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOG 4441 - Advanced Climate Variability Credits: 3
- GEOL 4441 - Advanced Climate Variability Credits: 3

Biosphere

(Choose one course):

- REWM 2000 - Principles of Rangeland Management Credits: 3
- LIFE 2022 - Animal Biology Credits: 4
- LIFE 2023 - Biology of Plants and Fungi Credits: 4
- ENR 2100 - Forest Management Credits: 3
- RNEW 2100 - Forest Management Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

- LIFE 3400 - General Ecology Credits: 3
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4460 - Biogeography Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3

Environmental Systems Interactions

(Choose one course):

- ESS 3480 - Environm

ental Change Credits: 3

- GEOG 3480 - Environmental Change Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CHE 4430 -

Green Chemistry and Global Environmental Problems Credits: 3

- ENR 4570 - Climate Change Responses Credits:

Lithosphere - Hydrology & Surface Processes

(Choose one course):

- GEOL 2150 - Geomorphology Credits: 4
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- ENR 3100 - Principles of Wildland Water Quality Credits: 3

- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3

16+ Credit Hours of Skills & Tools Courses

College

Algebra

- MATH 1400 - College Algebra Credits: 3

Statistics or Calculus

(Choose one course):

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4
- MATH 2200 - Calculus I Credits: 4

Data Analysis

(Choose one course):

- STAT 3050 - Statistical

Methods
Credits: 3

- ESS 4001 - Analysis of Nature's Data
Credits: 3
- ENR 4525 - Environmental Data Analysis
Credits: 4
- GEOL 4525 - Environmental Data Analysis
Credits: 4

GIS/Remote Sensing

Undergraduate certificates available in GIS or Remote Sensing. See advisor for information. (Choose one pathway):

GIS

(Take all courses):

- GIST 2200 - Spatial Data Visualizati

on
Credits: 3

- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology
Credits: 3

or

Remote Sensing

(Choose six credits):

- GIST 2140 - Survey of Remote Sensing Applications
Credits: 3
- GIST 4130 - Applied Remote Sensing
Credits: 3
- GIST 4211 - Advanced Remote Sensing
Credits: 3
- GIST 4410 - UAS

Sensors and Platforms Credits: 1

- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3

Professional Development (1 Credit Min. S/U Grading Only)

- ESS 4970 - Internship

in Earth System Science Credits: 1-6

Satisfactory completion of a professional and applied experi

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Capstone

- ESS 4950 - Exploring the Earth System Credits: 3

18+ Credit Hours in an Approved Minor or Concurrent Major

18+ credit hours in an approved* minor or concurrent major as an area of specialization: Agroecology, Agronomy,

Anthropology, Astronomy, Biology, Botany, Chemistry, Environment & Natural Resources, Forest Resources, Geography, Geology, GIS & Remote Sensing, Horticulture, Insect Biology, Land Surveying, Paleoenvironmental Studies, Physics, Plant Protection, Rangeland Ecology & Watershed Management, Reclamation & Restoration Ecology, Secondary Earth Science Education, Soil Science, Statistics, Sustainability, Wildlife & Fisheries Biology & Management, or Zoology

** other options available; subject to advisor approval*

6+ Credit Hours of Haub School Requirements Courses

- Students earning a B.S. in ESS with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness

(choose one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor if needed to meet minimum 120 credits, including 42 upper division credits, to earn a bachelor's degree from the University of Wyoming.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - including Haub

School U.S. Diversity and Global Awareness courses, and degree, major, and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;
- meet University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Outdoor Recre

ation & Tourism Management, Business & Hospitality Management Concentration, B.S.

A B.S. in Outdoor Recreation and Tourism Management (ORTM) emphasizes stewardship and conservation of natural resources, tourism and outdoor recreation theories and best practices, and

entrepreneurial and business management strategies.

This concentration focuses on hospitality, business management, marketing, and entrepreneurial ventures. Careers in guest & hospitality services, tourism management, and outdoor recreation enterprise.

Degree Program Requirements

This major requires a minimum of 78 credits (primary) or 72 (concurrent), <variable> of which

are upper-division credits. Students must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to graduate from UW.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requiremen

ts, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Overview

Students choose one of five different concentrations.

Students earning a degree in ORTM will be expected to demonstrate learning in six key areas:

- Leadership
- competenc

y in leading and building diverse, collaborative teams;

- application and evaluation of ethical, resourceful leadership principles to challenges and solutions within the ORTM industry.
- Professional Practice
- ability to apply and critically evaluate practical, creative, ethical, and theoretical frameworks in diverse and complex professional circumstances.
- Communication
- ability to manage dynamic relationships and demonstrate best practices in communication.

- Nimble and Creative Thinking
- ability to strategically design, implement, and evaluate sustainable and emergent services, experiences, and opportunities.
- Trans-disciplinarity
- synthesis and application of ecological and human communities, with the capacity to provide wise stewardship and conservation of natural resources;
- tourism and outdoor recreation theories and best practices;
- entrepreneurial and business management strategies.
- Place-based and Global

Understanding

- skills to implement solutions appropriate for local environments that demonstrate fluency in global contexts and diverse cultures.

18 Credit Hours of ORTM Core Courses

- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 1050 - Natural and Cultural Resources of the West Credits: 3
- ORTM 2000 - Foundations of Customer Service and

Hospitality Credits: 3

- ORTM 2050 - Program Planning, Design and Delivery Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3
- ORTM 3050 - Conservation Planning for Tourism & Recreation Credits: 3

20+ Credit Hours in ORTM Foundations Courses

Statistics

(Choose one course):

- STAT 2050 - Fundame

ntals of Statistics Credits: 4

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Business Fundamentals

Economics

(Choose one course):

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 1200 - Economics, Law and Government Credits: 3
- ORTM 2010 -

Financial Management in Outdoor Recreation and Tourism Management
Credits: 3

Management

- MGT 2100 - Management and Organizations
Credits: 3

Marketing

- MKT 2100 - Introduction to Marketing
Credits: 3

Environment & Natural Resources

Environmental Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Conservation & Sustainability

(Choose one course):

- RNEW 1000 - Wyoming Wildlands: Science and Stewardship Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- ENR 2100 - Forest Management Credits: 3
- RNEW 2100 - Forest Management Credits: 3
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of

Natural Resources Credits: 3

- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3

People & Culture

Social Science

(Choose one course):

- GEOG 1000 - World Regional Geography Credits: 3
- PSYC 1000 - General Psycholog

y Credits: 3

- SOC 1000 - Sociological Principles Credits: 3
- GEOG 1020 - Introduction to Human Geography Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- INST 4555 - Political Ecology Credits: 3
- POLS 4555 - Political Ecology Credits: 3

Culture /Diversity

(Choose one course):

- AAST 1000 - Introduction to African American Studies Credits: 3
- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- ENGL 1080 - Introduction to Women's Studies Credits: 3
- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- AAST 1030 - Social Justice in the 21st Century Credits: 3
- AMST 1030 - Social Justice in the 21st Century Credits: 3
- GWST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 1030 - Social

Justice in the 21st Century Credits: 3

- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- LTST 1300 - Introduction to Latina/o Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- SOC 1350 - American Indians in Contemporary Society Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- GWST 2000 - Introduction to LGBTQ/N

S Studies Credits: 3

- AMST 2010 - Introduction to American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- INST 2240 - Introduction to African Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3

13+ Credit Hours in Synthesis & Applied Experience

Professional Semester

(Complete all courses in the same semester):

- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management Credits: 3
- ORTM 4902 - Recreation Venue Operations Credits: 3
- ORTM 4903 - Capstone Credits: 3

Professional Development (1 Credit Min. S/U

Grading Only)

- ORTM 4970 - Internship Credits: 1-6

Satisfactory completion of a 400+ hour professional an

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21+ Credit -Hour Concentration

Note that courses already taken in the ORTM core, foundations, or synthesis & applied experience cannot also apply to concentration requirements.

Foundations

(Take all courses):

- ACCT 2010 - Principles of Accounting I Credits: 3
- MGT 2010 - Legal Environment of Business Credits: 3
- HOSP 4800 - Hospitality Operations Management Credits: 3

Management

(Choose one course):

- HOSP 3000 - Managing Profitability in Hospitality Credits: 3
- MGT 3410 - Human Resources Management Credits: 3

- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4220 - Talent Acquisition Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3

Sales & Marketing

(Choose one course):

- SELL 3310 - Professional and Technical Selling Credits: 3
- MKT 4230 - Integrated Marketing Communication Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3

- MKT 4440 - Services Marketing Credits: 3
- MKT 4520 - Marketing Research and Analysis Credits: 3
- MKT 4540 - International Marketing Credits: 3
- MKT 4590 - Sustainable Business Practices Credits: 3

Approved Electives

(Choose two courses):

- MGT 2030 - Principle-Based Ethics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- ENTR 2400 - Entrepreneurial

Mindset Credits: 3

- HOSP 3000 - Managing Profitability in Hospitality Credits: 3
- ECON 3010 - Intermediate Macroeconomics Credits: 3
- ENTR 3700 - Innovation, Ideation, and Value Proposition Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- ENTR 4700 - Business Model Creation and Launch Credits: 3

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6+ Credit Hours of Haub School Requirements Courses

- Students earning a B.S. in ORTM with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity

(choose one course)

2. Global Awareness (choose one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor if needed to meet minimum 120 credits, including 42 upper division credits, to earn a bachelor's degree from the University of Wyoming.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - in-cluding Haub

School U.S. Diversity and Global Awareness courses, and degree, major, and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;

- meet University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Outdoor

Recreation & Tourism Management, Creative Studies in Recreation & Tourism Concentration, B.S.

A B.S. in Outdoor Recreation and Tourism Management (ORTM) emphasizes stewardship and conservation of natural resources, tourism and outdoor

recreation theories and best practices, and entrepreneurial and business management strategies.

This concentration is for students with interests outside designated concentrations. Design a program of study with advisor approval.

Degree Program Requirements

This major requires a minimum of 76 credits (primary) or 70 (concurrent), <variable> of which are upper-division credits. Stu

dents must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to graduate from UW.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students

should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture

(2)
Credits: 3

- V - - U.S. & WY Constitution
Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives
Credits: 3

Program Overview

Students choose one of five different concentrations.

Students earning a degree in ORTM will be expected to demonstrate learning in six key areas:

- Leadership
- competency in leading and building diverse,

collaborative teams;

- application and evaluation of ethical, resourceful leadership principles to challenges and solutions within the ORTM industry.
- Professional Practice
- ability to apply and critically evaluate practical, creative, ethical, and theoretical frameworks in diverse and complex professional circumstances.
- Communication
- ability to manage dynamic relationships and demonstrate best practices in communication.
- Nimble and Creative Thinking

- ability to strategically design, implement, and evaluate sustainable and emergent services, experiences, and opportunities.
- Trans-disciplinarity
- synthesis and application of ecological and human communities, with the capacity to provide wise stewardship and conservation of natural resources;
- tourism and outdoor recreation theories and best practices;
- entrepreneurial and business management strategies.
- Place-based and Global Understanding
- skills to implement

solutions appropriate for local environments that demonstrate fluency in global contexts and diverse cultures.

18 Credit Hours of ORTM Core Courses

- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 1050 - Natural and Cultural Resources of the West Credits: 3
- ORTM 2000 - Foundations of Customer Service and Hospitality Credits: 3
- ORTM 2050 -

Program Planning, Design and Delivery Credits: 3

- ORTM 3000 - Tourism Theory and Practice Credits: 3
- ORTM 3050 - Conservation Planning for Tourism & Recreation Credits: 3

20+ Credit Hours in ORTM Foundations Courses

Statistics

(Choose one course):

- STAT 2050 - Fundamentals of Statistics Credits: 4

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Business Fundamentals

Economics

(Choose one course):

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 1200 - Economics, Law and Government Credits: 3
- ORTM 2010 - Financial Management in

Outdoor Recreation and Tourism Management
Credits: 3

Management

- MGT 2100 - Management and Organizations
Credits: 3

Marketing

- MKT 2100 - Introduction to Marketing
Credits: 3

Environment & Natural Resources

Environmental Science

(Choose one course)

- ESS 1000 - Wyoming

in the Earth System Credits: 3

- PLNT 1000 - Agroecology Credits: 4
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Conservation & Sustainability

(Choose one course):

- RNEW 1000 - Wyoming Wildlands: Science and Stewardship Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- ENR 2100 - Forest Management Credits: 3
- RNEW 2100 - Forest Management Credits: 3
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of

Natural Resources Credits: 3

- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3

People & Culture

Social Science

(Choose one course):

- GEOG 1000 - World Regional Geography Credits: 3
- PSYC 1000 - General Psycholog

y Credits: 3

- SOC 1000 - Sociological Principles Credits: 3
- GEOG 1020 - Introduction to Human Geography Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- INST 4555 - Political Ecology Credits: 3
- POLS 4555 - Political Ecology Credits: 3

Culture /Diversity

(Choose one course):

- ENGL 1080 - Introduction to Women's Studies Credits: 3
- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- AAST 1000 - Introduction to African American Studies Credits: 3
- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- AAST 1030 - Social Justice in the 21st Century Credits: 3
- AMST 1030 - Social Justice in the 21st Century Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- GWST 1030 -

Social Justice in the 21st Century Credits: 3

- LTST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 1300 - Introduction to Latina/o Studies Credits: 3
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- SOC 1350 - American Indians in Contemporary Society Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- GWST 2000 - Introduction to LGBTQ/N

S Studies Credits: 3

- AMST 2010 - Introduction to American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- INST 2240 - Introduction to African Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3

13+ Credit Hours in Synthesis & Applied Experience

Professional Semester

(Complete all courses in the same semester):

- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management Credits: 3
- ORTM 4902 - Recreation Venue Operations Credits: 3
- ORTM 4903 - Capstone Credits: 3

Professional Development (1 Credit Min. S/U

Grading Only)

- ORTM 4970 - Internship Credits: 1-6

Satisfactory completion of a 400+ hour professional an

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19+ Credit-Hour Concentration

Note that courses already taken in the ORTM core, foundations, or synthesis & applied experience cannot also apply to concentration requirements.

- Self-designed program of study; requires approval from advisor.

6+ Credit Hours of Haub School Requirements Courses

- Students earning a B.S. in ORTM with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor if needed to meet minimum 120 credits, including 42 upper division credits, to earn a bachelor's degree from the University of Wyoming.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - including Haub School U.S. Diversity

and Global Awareness courses, and degree, major, and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;

- meet University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Outdoor Recre

ation & Tourism Management, Cultural & International Tourism Concentration, B.S.

A B.S. in Outdoor Recreation and Tourism Management (ORTM) emphasizes stewardship and conservation of natural resources, tourism and outdoor recreation theories and best practices, and

entrepreneurial and business management strategies.

This concentration focuses on promoting, interpreting, and operaterating historic, cultural, and artistic attractions domestically or internationally. Careers in tour operation, museum management, and interpretation.

Degree Program Requirements

This major requires a minimum of 76 credits (primary) or 70 (concurrent), <variable>

of which are upper-division credits. Students must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to graduate from UW.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP

requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3

- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Program Overview

Students choose one of five different concentrations.

Students earning a degree in ORTM will be expected to demonstrate learning in six key areas:

- Leadership
- competenc

y in leading and building diverse, collaborative teams;

- application and evaluation of ethical, resourceful leadership principles to challenges and solutions within the ORTM industry.
- Professional Practice
- ability to apply and critically evaluate practical, creative, ethical, and theoretical frameworks in diverse and complex professional circumstances.
- Communication
- ability to manage dynamic relationships and demonstrate best practices in communication.

- Nimble and Creative Thinking
- ability to strategically design, implement, and evaluate sustainable and emergent services, experiences, and opportunities.
- Trans-disciplinarity
- synthesis and application of ecological and human communities, with the capacity to provide wise stewardship and conservation of natural resources;
- tourism and outdoor recreation theories and best practices;
- entrepreneurial and business management strategies.
- Place-based and Global

Understanding

- skills to implement solutions appropriate for local environments that demonstrate fluency in global contexts and diverse cultures.

18 Credit Hours of ORTM Core Courses

- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 1050 - Natural and Cultural Resources of the West Credits: 3
- ORTM 2000 - Foundations of Customer Service and

Hospitality Credits: 3

- ORTM 2050 - Program Planning, Design and Delivery Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3
- ORTM 3050 - Conservation Planning for Tourism & Recreation Credits: 3

20+ Credit Hours in ORTM Foundations Courses

Statistics

(Choose one course):

- STAT 2050 - Fundame

ntals of Statistics Credits: 4

- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Business Fundamentals

Economics

(Choose one course):

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 1200 - Economics, Law and Government Credits: 3
- ORTM 2010 -

Financial Management in Outdoor Recreation and Tourism Management
Credits: 3

Management

- MGT 2100 - Management and Organizations
Credits: 3

Marketing

- MKT 2100 - Introduction to Marketing
Credits: 3

Environment & Natural Resources

Environmental Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Conservation & Sustainability

(Choose one course):

- RNEW 1000 - Wyoming Wildlands: Science and Stewardship Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- ENR 2100 - Forest Management Credits: 3
- RNEW 2100 - Forest Management Credits: 3
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of

Natural Resources Credits: 3

- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3

People & Culture

Social Science

(Choose one course):

- GEOG 1000 - World Regional Geography Credits: 3
- PSYC 1000 - General Psycholog

y Credits: 3

- SOC 1000 - Sociological Principles Credits: 3
- GEOG 1020 - Introduction to Human Geography Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- INST 4555 - Political Ecology Credits: 3
- POLS 4555 - Political Ecology Credits: 3

Culture /Diversity

(Choose one course):

- AAST 1000 - Introduction to African American Studies Credits: 3
- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- ENGL 1080 - Introduction to Women's Studies Credits: 3
- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- AAST 1030 - Social Justice in the 21st Century Credits: 3
- AMST 1030 - Social Justice in the 21st Century Credits: 3
- GWST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 1030 - Social

Justice in the 21st Century Credits: 3

- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- LTST 1300 - Introduction to Latina/o Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- SOC 1350 - American Indians in Contemporary Society Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- GWST 2000 - Introduction to LGBTQ/N

S Studies Credits: 3

- AMST 2010 - Introduction to American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- INST 2240 - Introduction to African Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3

13+ Credit Hours in Synthesis & Applied Experience

Professional Semester

(Complete all courses in the same semester):

- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management Credits: 3
- ORTM 4902 - Recreation Venue Operations Credits: 3
- ORTM 4903 - Capstone Credits: 3

Professional Development (1 Credit Min. S/U

Grading Only)

- ORTM 4970 - Internship Credits: 1-6

Satisfactory completion of a 400+ hour professional an

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19+ Credit-Hour Concentration

Note that courses already taken in the ORTM core, foundations, or synthesis & applied experience cannot also apply to concentration requirements.

Global Tourism

- ORTM 4050 - Global Tourism Credits: 3

International Experience

- Students must complete a faculty-led, semester-, or year-long study abroad course or experience

Cultural Resources

(Choose one course):

- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3

- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 4570 - Cultural Geography Credits: 3
- INST 3000 - Social Change Credits: 3
- INST 3200 - Comparative Political Cultures Credits: 3
- INST 4060 - NGOs, Development, and Culture Credits: 3
- INST 4350 - Culture Change Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3

- AMST 4800 - Historic Preservation Credits: 3
- ENR 4800 - Historic Preservation Credits: 3

The American West

(Choose one course):

- GEOG 4500 - The American Landscape Credits: 3
- GEOG 4502 - Images of Wyoming and the West Credits: 3
- HIST 2389 - History of Women in the American West Credits: 3
- HIST 2290 - History of North American Indians Credits: 3

- NAIS 2290 - History of North American Indians Credits: 3
- HIST 3000 - Plains Culture and History Credits: 3
- NAIS 3000 - Plains Culture and History Credits: 3
- HIST 4000 - Indians of Wyoming Credits: 3
- NAIS 4000 - Indians of Wyoming Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- AMST 4800 - Historic Preservation Credits: 3
- ENR 4800 - Historic Preservation Credits: 3

Language

(Complete two consecutive language or ASL courses):

- LANG 1010 - First Semester in (TOPIC) Credits: 1-4
- LANG 1020 - Second Semester in (TOPIC) Credits: 1-4

Cultural/International Museum Studies

(Choose one course):

- ANTH 2200 - World Culture Credits: 3
- ANTH 2110 - Forgotten Africa: Intro to African

Civilizations Credits: 3

- ANTH 2070 - Introduction to Museology Credits: 3
- AMST 2070 - Introduction to Museology Credits: 3
- ANTH 3410 - Maya, Aztec, and Inca Cultures Credits: 3
- INST 2230 - Introduction to Asian Studies Credits: 3
- INST 2240 - Introduction to African Studies Credits: 3
- INST 2250 - Introduction to Latin American Studies Credits: 3
- INST 2280 - Introduction to European Studies Credits: 3

- INST 2350 - Introduction to Global Studies Credits: 3
- POLS 2200 - Politics of Europe Credits: 3

6+ Credit Hours of Haub School Requirements Courses

- Students earning a B.S. in ORTM with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor if needed to meet minimum 120 credits, including 42 upper division credits, to earn a bachelor's degree from the University of Wyoming.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - in-

cluding Haub School U.S. Diversity and Global Awareness courses, and degree, major, and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;

- meet University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Outdoor Recreation & Tourism Management, Management of Recreation Resources Concentration, B.S.

A B.S. in Outdoor Recreation and Tourism Management (ORTM) emphasizes stewardship and conservation of natural resources, tourism and outdoor

recreation theories and best practices, and entrepreneurial and business management strategies.

This concentration focuses on managing and planning recreation experiences and infrastructure on public and private lands. Careers in resort or ranch management, recreation planning with state or federal agencies.

Degree Program Requirements

This major requires a minimum of 75

credits (primary) or 69 (concurrent), <variable> of which are upper-division credits. Students must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to graduate from UW.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation.

Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural

World (2)
Credits: 3

- H - - Human Culture (1)
Credits: 3
- H - - Human Culture (2)
Credits: 3
- V - - U.S. & WY Constitution
Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives
Credits: 3

Program Overview

Students choose one of five different concentrations.

Students earning a degree in ORTM will be expected to demonstrate learning

in six key areas:

- Leadership
- competency in leading and building diverse, collaborative teams;
- application and evaluation of ethical, resourceful leadership principles to challenges and solutions within the ORTM industry.
- Professional Practice
- ability to apply and critically evaluate practical, creative, ethical, and theoretical frameworks in diverse and complex professional circumstances.
- Communication
- ability to manage dynamic relationshi

ps and demonstrate best practices in communication.

- Nimble and Creative Thinking
- ability to strategically design, implement, and evaluate sustainable and emergent services, experiences, and opportunities.
- Trans-disciplinarity
- synthesis and application of ecological and human communities, with the capacity to provide wise stewardship and conservation of natural resources;
- tourism and outdoor recreation theories and best practices;
- entrepreneurial and business

management strategies.

- Place-based and Global Understanding
- skills to implement solutions appropriate for local environments that demonstrate fluency in global contexts and diverse cultures.

18 Credit Hours of ORTM Core Courses

- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 1050 - Natural and Cultural Resources of the West Credits: 3

- ORTM 2000 - Foundations of Customer Service and Hospitality Credits: 3
- ORTM 2050 - Program Planning, Design and Delivery Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3
- ORTM 3050 - Conservation Planning for Tourism & Recreation Credits: 3

20+ Credit Hours in ORTM Foundations Courses

Statistics

(Choose one course):

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Business Fundamentals

Economics

(Choose one course):

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 1200 - Economics, Law

and Government
Credits: 3

- ORTM 2010 - Financial Management in Outdoor Recreation and Tourism Management
Credits: 3

Management

- MGT 2100 - Management and Organizations
Credits: 3

Marketing

- MKT 2100 - Introduction to Marketing
Credits: 3

Environment & Natural Resources

Environmental

Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Conservation & Sustainability

(Choose one course):

- RNEW 1000 - Wyoming Wildlands: Science and Stewardship Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- ENR 2100 - Forest Management Credits: 3
- RNEW 2100 - Forest Management Credits: 3
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 4040 - Conservation of

Natural Resources Credits: 3

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3

People & Culture

Social Science

(Choose one course):

- GEOG 1000 - World

Regional Geography Credits: 3

- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- GEOG 1020 - Introduction to Human Geography Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- INST 4555 - Political Ecology Credits: 3
- POLS 4555 - Political Ecology Credits: 3

Culture /Diversity

(Choose one course):

- AAST 1000 - Introduction to African American Studies Credits: 3
- NAIS 1001 - Foundations in American Indian Studies Credits: 3
- ENGL 1080 - Introduction to Women's Studies Credits: 3
- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- AAST 1030 - Social Justice in the 21st Century Credits: 3
- AMST 1030 - Social Justice in the 21st Century Credits: 3

- GWST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3
- LTST 1300 - Introduction to Latina/o Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- SOC 1350 - American Indians in Contemporary Society Credits: 3
- ENR 2000 -

Environment and Society Credits: 3

- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3
- AMST 2010 - Introduction to American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- INST 2240 - Introduction to African Studies Credits: 3
- HIST 2290 - History of North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3

- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3

13+ Credit Hours in Synthesis & Applied Experience

Professional Semester

(Complete all courses in the same semester):

- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management Credits: 3
- ORTM 4902 - Recreation Venue Operations Credits: 3
- ORTM 4903 - Capstone Credits: 3

Professional Development (1

Credit Min. S/U Grading Only)

- ORTM 4970 - Internship Credits: 1-6

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18+ Credit -Hour Concentration

Note that courses already taken in the ORTM core, foundations, or synthesis & applied experience cannot also apply to concentration

requirements.

Environmental or Biological Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- RNEW 1000 - Wyoming Wildlands: Science and Stewardship Credits: 3
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- LIFE 1010 - General Biology Credits: 4

- GEOL 1100 - Physical Geology Credits: 4
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Resource Management

(Choose one course):

- REWM 2000 - Principles of Rangeland Management Credits: 3
- ENR 2100 - Forest Management Credits: 3

- RNEW 2100 - Forest Management Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- ENR 4040 - Conservation of

Natural Resources Credits: 3

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- REWM 4700 - Wildland Watershed Management Credits: 3

Human Dimensions

(Choose one course):

- AMST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3050 - Cultures of Nature in the United

States
Credits: 3

- ENR 3620 - Environmental Justice
Credits: 3
- POLS 3620 - Environmental Justice
Credits: 3
- ENR 3950 - Environmental Sociology
Credits: 3
- SOC 3950 - Environmental Sociology
Credits: 3
- ORTM 4050 - Global Tourism
Credits: 3
- MKT 4240 - Consumer Behavior
Credits: 3
- ANTH 4310 - Environmental Anthropology
Credits: 3
- ENR 4310 - Environmental Anthropology
Credits: 3
- ENR 4412 - Global

Environment History Credits: 3

- HIST 4412 - Global Environment History Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- ENR 4450 - Negotiation Credits: 3
- ENR 4570 - Climate Change Responses Credits:
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3
- ENR 4960 - Field Studies in: Credits: 1-6

Law & Policy

(Choose one course):

- ECON 3400 - Energy Markets & Policy Credits: 3
- ERS 3400 - Energy Markets & Policy Credits: 3
- AMST 4051 - Environmental Politics Credits: 3
- ENR 4051 - Environmental Politics Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- REWM 4051 - Environmental Politics Credits: 3
- AMST 4052 - Federal Land Politics Credits: 3
- ENR 4052 -

Federal Land Politics Credits: 3

- GEOG 4052 - Federal Land Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- REWM 4052 - Federal Land Politics Credits: 3
- INST 4385 - Environment and Resource Conflict Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- GEOG 4555 -

Political Ecology
Credits: 3

- INST 4555 - Political Ecology
Credits: 3
- POLS 4555 - Political Ecology
Credits: 3
- ENR 4750 - ENR Law and Policy
Credits: 3
- ENR 4590 - Green Criminology
Credits: 3
- CRMJ 4590 - Green Criminology
Credits: 3
- SOC 4590 - Green Criminology
Credits: 3

Planning

(Choose one course):

- ECON 2400 - Economics of the Environment
Credits: 3

- ECON 3400 - Energy Markets & Policy Credits: 3
- ERS 3400 - Energy Markets & Policy Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- ENR 4450 - Negotiation Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3

- AGEC 4660 - Community and Economic Development Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3

Geographic Information Systems or Analytics

(Choose three credits):

- GIST 1200 - Geospatial Foundations Credits: 3
- GIST 2110 - Techniques in Cartograp

hy
Credits: 3

- GIST 2140 - Survey of Remote Sensing Applications
Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology
Credits: 3
- GIST 2200 - Spatial Data Visualization
Credits: 3
- GIST 2310 - Intro to Geographic Information Systems
Credits: 4
- GIST 3050 - Spatial Database Design and Management
Credits: 3
- STAT 3050 - Statistical Methods
Credits: 3

- GIST 3140 - Introduction to Remote Sensing Credits: 3
- ESS 4001 - Analysis of Nature's Data Credits: 3
- GIST 4130 - Applied Remote Sensing Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1

- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- ENR 4525 - Environmental Data Analysis Credits: 4
- GEOL 4525 - Environmental Data Analysis Credits: 4
- AGEC 4550 - Negotiation Analysis Credits: 3
- ENR 4550 - Negotiation Analysis Credits: 3

6+ Credit Hours of Haub School Requirement

s Courses

- Students earning a B.S. in ORTM with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor if needed to

meet minimum 120 credits, including 42 upper division credits, to earn a bachelor's degree from the University of Wyoming.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - including Haub School U.S. Diversity and Global Awareness courses, and degree, major, and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;

- meet University of

Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Outdoor Recreation & Tourism Management, Outdoor Recreation Leadership

Concentration, B.S.

A B.S. in Outdoor Recreation and Tourism Management (ORTM) emphasizes stewardship and conservation of natural resources, tourism and outdoor recreation theories and best practices, and entrepreneurial and business management strategies.

This concentration focuses on leading, guiding, and educating clients or managing recreation-related ventures and experiences. Careers in environmental education,

outfitting & guiding services, and outdoor adventure enterprise.

Degree Program Requirements

This major requires a minimum of 78 credits (primary) or 72 (concurrent), <variable> of which are upper-division credits. Students must satisfy USP requirements in accordance with their primary program. Additionally, students need a minimum of 120 total credits, including 42 upper-division credits to

graduate from UW.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3

- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP

electives
Credits: 3

Program Overview

Students choose one of five different concentrations.

Students earning a degree in ORTM will be expected to demonstrate learning in six key areas:

- Leadership
- competency in leading and building diverse, collaborative teams;
- application and evaluation of ethical, resourceful leadership principles to challenges and solutions within the ORTM industry.

- Professional Practice
- ability to apply and critically evaluate practical, creative, ethical, and theoretical frameworks in diverse and complex professional circumstances.
- Communication
- ability to manage dynamic relationships and demonstrate best practices in communication.
- Nimble and Creative Thinking
- ability to strategically design, implement, and evaluate sustainable and emergent services, experiences, and opportunities.
- Trans-disciplinarity

- synthesis and application of ecological and human communities, with the capacity to provide wise stewardship and conservation of natural resources;
- tourism and outdoor recreation theories and best practices;
- entrepreneurial and business management strategies.
- Place-based and Global Understanding
- skills to implement solutions appropriate for local environments that demonstrate fluency in global contexts and diverse cultures.

18 Credit Hours

of ORTM Core Courses

- ORTM 1000 - Foundations of Recreation and Tourism Credits: 3
- ORTM 1050 - Natural and Cultural Resources of the West Credits: 3
- ORTM 2000 - Foundations of Customer Service and Hospitality Credits: 3
- ORTM 2050 - Program Planning, Design and Delivery Credits: 3
- ORTM 3000 - Tourism Theory and Practice Credits: 3
- ORTM 3050 - Conservation

Planning for Tourism & Recreation Credits: 3

20+ Credit Hours in ORTM Foundations Courses

Statistics

(Choose one course):

- STAT 2050 - Fundamentals of Statistics Credits: 4
- STAT 2070 - Introductory Statistics for the Social Sciences Credits: 4

Business Fundamentals

Economics

(Choose one course):

- ECON 1010 - Principles of Macroeconomics Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3
- ECON 1200 - Economics, Law and Government Credits: 3
- ORTM 2010 - Financial Management in Outdoor Recreation and Tourism Management Credits: 3

Management

- MGT 2100 - Management and Organizations Credits: 3

Marketing

- MKT 2100 - Introduction to Marketing Credits: 3

Environment & Natural Resources

Environmental Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 - Physical

Geology
Credits: 4

- ENR 1200 - Environment
Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment
Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment
Credits: 4

Conservation & Sustainability

(Choose one course):

- RNEW 1000 - Wyoming Wildlands: Science and Stewardship
Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resource

s Credits: 4

- ENR 2100 - Forest Management Credits: 3
- RNEW 2100 - Forest Management Credits: 3
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3
- REWM 4440 - Applied Fire Ecology Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3
- GEOL 4470 - Fire Ecology Credits: 3

- ENR 4560 - Conservation Entrepreneurship Credits: 3

People & Culture

Social Science

(Choose one course):

- GEOG 1000 - World Regional Geography Credits: 3
- PSYC 1000 - General Psychology Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- GEOG 1020 - Introduction to Human Geography Credits: 3
- ENR 3950 - Environmental

Sociology
Credits: 3

- SOC 3950 - Environmental Sociology
Credits: 3
- GEOG 4555 - Political Ecology
Credits: 3
- INST 4555 - Political Ecology
Credits: 3
- POLS 4555 - Political Ecology
Credits: 3

Culture /Diversity

(Choose one course):

- AAST 1000 - Introduction to African American Studies
Credits: 3
- NAIS 1001 - Foundations in American Indian Studies
Credits: 3
- AAST 1030 - Social Justice in

the 21st Century Credits: 3

- AMST 1030 - Social Justice in the 21st Century Credits: 3
- GWST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- ENGL 1080 - Introduction to Women's Studies Credits: 3
- GWST 1080 - Intro Gender & Women's Studies Credits: 3
- ANTH 1200 - Introduction to Cultural Anthropology Credits: 3

- LTST 1300 - Introduction to Latina/o Studies Credits: 3
- NAIS 1350 - American Indians in Contemporary Society Credits: 3
- SOC 1350 - American Indians in Contemporary Society Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- GWST 2000 - Introduction to LGBTQ/NS Studies Credits: 3
- AMST 2010 - Introduction to American Studies Credits: 3
- AAST 2240 - Introduction to African Studies Credits: 3
- INST 2240 - Introduction to

African Studies Credits: 3

- HIST 2290 - History of North American Indians Credits: 3
- NAIS 2290 - History of North American Indians Credits: 3
- NAIS 3200 - Indigenous Peoples and the Environment Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3

- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3

13+ Credit Hours in Synthesis & Applied Experience

Professional Semester

(Complete all courses in the same semester):

- ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies Credits: 3
- ORTM 4901 - Human Dimensio

ns of Outdoor Recreation and Tourism Management Credits: 3

- ORTM 4902 - Recreation Venue Operations Credits: 3
- ORTM 4903 - Capstone Credits: 3

Professional Development (1 Credit Min. S/U Grading Only)

- ORTM 4970 - Internship Credits: 1-6

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21+ Credit-Hour Concentration

Note that courses already taken in the ORTM core, foundations, or synthesis & applied experience cannot also apply to concentration requirements.

Outdoor Leadership

(Choose one course):

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3
- ORTM 2410 - Outdoor

Leadership Credits: 3

Business Ethics

- MGT 2030 - Principle-Based Ethics Credits: 3

Wilderness First Responder (WFR) and CPR Certifications

Complete WFR & CPR through an approved provider. See advisor for options. To satisfy this requirement:

- Provide WFR & CPR certification cards to your advisor. Certifications must be

current at the time of graduation (typically valid for 2 years). Your advisor will mark this requirement as complete.

- Note that optional credit is available **after** you earn your WFR & CPR cards: ENR 3900 - Wilderness Medicine (3cr., S/U grading only). Consult with advisor re: applicability of credit.

Leadership

(Choose one course):

- GWST 2050 - Women and Leadership Credits: 3
- SOWK 2050 - Women

and Leadership Credits: 3

- CNSL 2200 - Introduction to Student Leadership Credits: 2
- AGRI 3000 - Discovering and Utilizing Ideas and Information Credits: 3
- CNSL 3010 - Student Leadership Strategies Credits: 2
- FCSC 4117 - Understanding Community Leadership Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- ENR 4450 - Negotiation Credits: 3
- AGRI 4700 - Elements of Leadership Credits: 3

- ENR 4950 - Leadership in Natural Resources Management Credits: 2

Business

(Choose one course):

- MGT 2010 - Legal Environment of Business Credits: 3
- MGT 2030 - Principle-Based Ethics Credits: 3
- FIN 2100 - Principles of Finance Credits: 3
- ENTR 2400 - Entrepreneurial Mindset Credits: 3
- HOSP 3000 - Managing Profitability in Hospitality Credits: 3
- ENTR 3700 - Innovation

, Ideation, and Value Proposition Credits: 3

- MKT 4590 - Sustainable Business Practices Credits: 3
- ENTR 4700 - Business Model Creation and Launch Credits: 3

Law & Policy

(Choose one course):

- ECON 3400 - Energy Markets & Policy Credits: 3
- ERS 3400 - Energy Markets & Policy Credits: 3
- AMST 4051 - Environmental Politics Credits: 3
- ENR 4051 - Environmental Politics Credits: 3

- GEOG 4051 - Environmental Politics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- REWM 4051 - Environmental Politics Credits: 3
- AMST 4052 - Federal Land Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3
- GEOG 4052 - Federal Land Politics Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3
- REWM 4052 - Federal Land Politics Credits: 3
- INST 4385 - Environment and Resource

Conflict
Credits: 3

- POLS 4385 - Environment and Resource Conflict
Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America
Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America
Credits: 3
- GEOG 4555 - Political Ecology
Credits: 3
- INST 4555 - Political Ecology
Credits: 3
- POLS 4555 - Political Ecology
Credits: 3
- ENR 4750 - ENR Law and Policy
Credits: 3
- ENR 4590 - Green Criminology
Credits: 3
- CRMJ 4590 -

Green Criminology Credits: 3

- SOC 4590 - Green Criminology Credits: 3

Human Dimensions

(Choose one course):

- AMST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environm

ental Justice Credits: 3

- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- ORTM 4050 - Global Tourism Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3
- HIST 4412 - Global Environment History Credits: 3

- ENR 4450 - Negotiation Credits: 3
- AGEC 4450 - Negotiation Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- ENR 4570 - Climate Change Responses Credits:
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3
- ENR 4960 - Field Studies in: Credits: 1-6

Natural History

(Choose one course):

- ENR 2100 - Forest Management Credits: 3

- RNEW 2100 - Forest Management Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- AMST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3050 - Cultures of Nature in the United States Credits: 3
- BOT 3100 - Plants and Civilizatio

n Credits: 3

- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3450 - Weather and Climate Credits: 3
- GEOG 3450 - Weather and Climate Credits: 3
- GEOL 3450 - Weather and Climate Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- BOT 4280 - Paleobotany Credits: 4
- GEOL 4280 - Paleobotany Credits: 4
- GEOG 4460 -

Biogeography
Credits: 3

6+ Credit Hours of Haub School Requirements Courses

- Students earning a B.S. in ORTM with their degree awarded from the Haub School must additionally complete 6 credit hours of Haub School Requirements:

1. U.S. Diversity (choose one course)

2. Global Awareness (choose one course)

Additional Requirements

Students complete additional credit hours in consultation with advisor if needed to meet minimum 120 credits, including 42 upper division credits, to earn a bachelor's degree from the University of Wyoming.

Additionally, students must:

- earn a C or better in all courses fulfilling program requirements - including Haub School U.S. Diversity and Global Awareness courses, and degree, major,

and/or minor courses;

- earn 12 credits unique to each program when enrolled in multiple Haub School programs;

- meet University of Wyoming requirements for earning a bachelor's degree, including, but not limited to, completion of University Studies Program and maintaining minimum 2.0 GPA for good academic standing and graduation.

Minor

Environment & Natural

Resources Minor

The undergraduate minor in Environment & Natural Resources (ENR) is the perfect complement to any primary degree program at the University of Wyoming. You'll take core courses to build a broad understanding of complex environment and natural resource challenges and how they intersect with other disciplines. You'll learn to work with people from diverse backgrounds to assess and build

solutions to those challenges.

20+ Credit Hours of ENR Core Courses

Foundations of Environmental Studies

- ENR 1010 - Thinking Like a Mountain: complex environmental challenges and interdisciplinary solutions Credits: 1

Foundations of Environmental

Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

Environment & Society

- ENR 2000 - Environment and Society Credits: 3

Approaches to Problem Solving

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3

Environmental Assessment:

- ENR 4900 - Capstone in ENR Credits: 3

Professional Development (1 Credit Min. S/U Grading Only)

- ENR 4970 - ENR Internship Credits: 1-6

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3+ Credit Hours of ENR Electives

(Select from the following, minimum 3 credits required):

Any course with code ENR 1000-4999, not already used above. Be cautious of cross-listed offerings as you cannot receive duplicate credit.

Additional Requirements

All students declared in

undergraduate Haub School programs, including majors and minors, must earn a C or better in all Haub School program requirements. Students enrolled in multiple Haub School programs must earn 12 credits unique to each program.

Outdoor Leadership Minor

Add this minor to any undergraduate degree program at UW to develop skills and experiences that will position you as someone your peers and colleagues

look to for guidance, especially in challenging situations. You'll work with other students in the field and the classroom to problem solve, discuss ethics, develop outdoor skills, and practice decision making.

9+ Credit Hours of Outdoor Leadership Foundations Courses

Introduction to Outdoor Leadership

(Choose one course):

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3
- ORTM 2410 - Outdoor Leadership Credits: 3

Environmental Science

(Choose one course):

- ESS 1000 - Wyoming in the Earth System Credits: 3
- PLNT 1000 - Agroecology Credits: 4
- GEOG 1010 - Introduction to Physical Geography Credits: 3
- GEOL 1100 -

Physical Geology Credits: 4

- ENR 1200 - Environment Credits: 4
- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- ENR 3450 - Weather and Climate Credits: 3
- GEOG 3450 - Weather and

Climate Credits: 3

- GEOL 3450 - Weather and Climate Credits: 3
- ESS 3480 - Environmental Change Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of Natural Resources Credits: 3

Behavior Management and Mental Health

Promotion

- ORTM 4400 - Behavior Management and Mental Health Promotion for Outdoor Professionals Credits: 3

5+ Credit Hours of Concepts Courses

Leadership

(Choose one course):

- CNSL 2200 - Introduction to Student Leadership Credits: 2
- GWST 2050 - Women and Leadershi

p Credits: 3

- AGRI 3000 - Discovering and Utilizing Ideas and Information Credits: 3
- CNSL 3010 - Student Leadership Strategies Credits: 2
- FCSC 4117 - Understanding Community Leadership Credits: 3
- ENR 4550 - Negotiation Analysis Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- AGRI 4700 - Elements of Leadership Credits: 3
- ENR 4950 - Leadership in Natural Resources Managem

ent
Credits: 2

Ethics & Culture

(Choose one course):

- ORTM 1050 - Natural and Cultural Resources of the West Credits: 3
- ENR 2330 - Environmental Ethics Credits: 3
- PHIL 2330 - Environmental Ethics Credits: 3
- AMST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3050 - Cultures of Nature

in the United States Credits: 3

- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4310 - Environm

ental Anthropology Credits: 3

- GWST 4450 - Ecofeminism Credits: 3
- ORTM 4050 - Global Tourism Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3
- ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management Credits: 3

3+ Credit Hours of Applied Experience

(Choose from the following; minimum

three credits required):

- ENR 3700 - Wyoming Conservation Corps Practicum Credits: 1
- ENR 4950 - Leadership in Natural Resources Management Credits: 2
- ENR 4960 - Field Studies in: Credits: 1-6
- ENR 4965 - Field and International Experience Credits: TO
- ENR 4970 - ENR Internship Credits: 1-6

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RTM4970 can be applied across multiple Haubprograms. All prefixes are

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Wilder
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First

Responder (WFR) and CPR Certifications

Complete WFR & CPR through an approved provider. See advisor for options. To satisfy this requirement:

- Provide WFR & CPR certification cards to your advisor. Certifications must be current at the time of graduation (typically valid for 2 years). Your advisor will mark this requirement as complete.
- Note that optional credit is available **a**

fter you earn your WFR & CPR cards: ENR 3900 - Wilderness Medicine (3cr., S/U grading only). Consult with advisor re: applicability of credit.

Additional Requirements

All students declared in undergraduate Haub School programs, including majors and minors, must earn a C or better in all Haub School program requirements. Students enrolled in multiple Haub School programs must earn 12 credits unique to each program.

Sustainability Minor

Communities, organizations, and individuals are looking for ways to live and operate more sustainability; to consume fewer nonrenewable resources and create less waste; to create systems that support people to be prosperous, healthy, and productive; and to work toward a better, more equitable world for future generations. Add the minor in Sustainability to any undergraduate degree

program at the University of Wyoming to learn how to understand, analyze, and implement sustainable solutions.

9 Credit Hours of Sustainability Core Courses

Foundations of Sustainability

- ENR 2300 - Foundations of Sustainability Credits: 3

Ethics & Justice

(Choose one course):

- AAST 1030 - Social Justice in the 21st Century Credits: 3
- AMST 1030 - Social Justice in the 21st Century Credits: 3
- GWST 1030 - Social Justice in the 21st Century Credits: 3
- LTST 1030 - Social Justice in the 21st Century Credits: 3
- NAIS 1030 - Social Justice in the 21st Century Credits: 3
- ENR 2330 - Environmental Ethics Credits: 3
- PHIL 2330 - Environmental Ethics Credits: 3
- PHIL 3250 - Global Justice Credits: 3

- ENR 3620 - Environmental Justice Credits: 3
- POLS 3620 - Environmental Justice Credits: 3
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- HLED 4020 - Food, Health, and Justice Credits: 3
- GWST 4450 - Ecofeminism Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3

Campus Sustainability

- ENR 4600 - Campus Sustainability Credits: 3

9+ Credit Hours of Sustainability Electives Courses

Note that courses already taken in the sustainability core cannot also apply as sustainability electives.

- (Choose three courses--courses can come from a combination of any category below):

Culture & Society

- ARE 3030 - History of Architecture Credits: 3
- ART 3030 - History of Architecture Credits: 3
- AMST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3
- GWST 3050 - Cultures of Nature in the United States Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3
- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3550 -

Natural Hazards and Society Credits: 3

- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- ENR 3950 - Environmental Sociology Credits: 3
- SOC 3950 - Environmental Sociology Credits: 3
- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4030 - Ecology of Knowledge Credits: 3
- ORTM 4050 - Global Tourism Credits: 3
- ANTH 4310 - Environmental Anthropology Credits: 3

- ENR 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3
- HIST 4412 - Global Environment History Credits: 3
- GWST 4450 - Ecofeminism Credits: 3
- ENR 4680 - Diversity and Justice in Natural Resources Credits: 3
- COJO 4700 - Media, Science, and Society Credits: 3
- ENR 4700 - Media, Science, and Society Credits: 3
- AMST 4800 - Historic Preservati

on
Credits: 3

- ENR 4800 - Historic Preservation Credits: 3
- ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management Credits: 3

Food Systems

- PLNT 1000 - Agroecology Credits: 4
- BOT 3100 - Plants and Civilization Credits: 3
- FCSC 3147 - Community Nutrition Credits: 3
- LIFE 3400 - General Ecology Credits: 3
- AGEC 3860 - World Food, Ag, &

Development Credits: 3

- INST 3860 - World Food, Ag, & Development Credits: 3
- HLED 4020 - Food, Health, and Justice Credits: 3
- PLNT 4020 - Sustainable Agriculture Credits: 3
- PLNT 4120 - Organic Food Production Credits: 3
- ANTH 4260 - Anthropology of Food, Culture, and Nutrition Credits: 3

Economics & Policy

- ECON 3400 - Energy Markets & Policy Credits: 3

- ERS 3400 - Energy Markets & Policy Credits: 3
- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AMST 4051 - Environmental Politics Credits: 3
- ENR 4051 - Environmental Politics Credits: 3
- GEOG 4051 - Environmental Politics Credits: 3
- POLS 4051 - Environmental Politics Credits: 3
- REWM 4051 - Environmental Politics Credits: 3

- INST 4385 - Environment and Resource Conflict Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3
- ECON 4400 - Environmental Economics Credits: 3
- INST 4475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 4475 - Politics of Natural Resources in Latin America Credits: 3
- ERS 4482 - Global Climate Governance Credits: 3
- GEOG 4555 - Political Ecology Credits: 3
- INST 4555 - Political Ecology Credits: 3

- POLS 4555 - Political Ecology Credits: 3
- INST 4455 - Energy Security Credits: 3
- POLS 4455 - Energy Security Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ENR 4750 - ENR Law and Policy Credits: 3

Energy & Environment

- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- ATSC 2100 - Global Warming: The Science of Humankin

ds' Energy Consumption Impacting Climate Credits: 3

- ARE 2410 - Fundamentals of Building Performance Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ENR 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 3100 - Principles of Wildland Water Quality Credits: 3
- ENR 3130 - Environmental Quality Credits: 3
- SOIL 3130 - Environmental Quality Credits: 3
- ENR 3450 - Weather and

Climate Credits: 3

- GEOG 3450 - Weather and Climate Credits: 3
- GEOL 3450 - Weather and Climate Credits: 3
- ESS 3480 - Environmental Change Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOL 3480 - Environmental Change Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- ENR 4040 - Conservation of Natural Resources Credits: 3
- GEOG 4040 - Conservation of Natural Resource

s Credits: 3

- ERS 4050 - Solar Energy Conversion Credits: 3
- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3
- REWM 4285 - Wildland Hydrology Credits: 4
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- CHE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ENR 4430 - Green Chemistry and Global Environm

ental Problems Credits: 3

- GEOG 4441 - Advanced Climate Variability Credits: 3
- GEOL 4441 - Advanced Climate Variability Credits: 3
- INST 4455 - Energy Security Credits: 3
- POLS 4455 - Energy Security Credits: 3
- ENR 4570 - Climate Change Responses Credits:
- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

Additional Requir

ements

All students declared in undergraduate Haub School programs, including majors and minors, must earn a C or better in all Haub School program requirements. Students enrolled in multiple Haub School programs must earn 12 credits unique to each program.

Graduate

Collaborative Practice Graduate Minor

The Collaborative Practice minor is designed to provide students with skills in designing, organizing, facilitating, and evaluating collaborative decision-making processes.

Program Overview

Students pursuing the Collaborative Practice minor will:

- build process competencies in collaborative decision making and problem solving, and
- deepen their knowledge in the application of collaborative processes

in specific contexts (natural resources, health, education, business, etc.). Collaborative Practice minor students who are currently working towards an ENR graduate major may not count ENR 5910 or ENR 5921 towards their ENR major. ENR5450 - Negotiation and one elective (approved for both the Collaborative Practice minor and the ENR major) may count for both.

In addition to degree requirements of the student's home department, students must complete 12 credit hours:

9 Credit Hours in Collaborative Practice Core Courses:

- ENR 5450 - Negotiation Credits: 3
- ENR 5910 - Collaborative Practice Methods Credits: 3
- ENR 5921 - Collaborative Practicum Credits: 1-3 (3 credits; may be completed for 1+ credit hours over multiple semesters)

3 Credit Hours in

Collaborative Practice Electives:

Students will consult with their Haub School advisor to choose an elective to deepen their process competencies or build knowledge for application of collaborative governance in specific contexts (natural resources, health, education, business, etc). Context specific electives should focus on policy within

that context.

Environment & Natural Resources Graduate Major

The ENR graduate major is completed in tandem with any UW graduate degree. Graduates will understand and evaluate the relationship of their primary discipline to other environmental fields to address the complexity of environmental challenges.

Program Overview

Students earning the ENR graduate major will take classes and conduct research in such fields as cultural studies, ecology, economics, law and politics, and management to:

- be conversant across a range of field of environmental significance, spanning science and technology to human dimensions of natural resources;
- understand and evaluate the relationship of your primary discipline to other relevant

ENR fields; and

- produce discourse, scholarship, and practical solutions that address the complexity of ENR challenges.

Graduate students interested in the concurrent major in ENR will apply for admission to a primary degree program at the University of Wyoming. Once accepted to their primary graduate program, students must complete an additional online process to confirm their enrollment in the ENR major. During the Haub School admission

process, students will submit a one-page Statement of Purpose. Current application requirements are available online.

In addition to degree requirements of the student's home department, students must complete 15 credit hours:

6 Credit Hours in ENR Core Courses:

- ENR 5100 - Foundations of ENRS Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

9+ Credit Hours in ENR Electives Courses:

(Choose three+ courses from any of the following categories)

Human Dimensions

- AGEC 4720 - Water Resource Economics Credits: 3
- AGEC 5660 - Community and Economic Development Credits: 3
- AMST 5030 - Ecology of Knowledge Credits: 3
- ANTH 5260 - Anthropol

ogy of Food, Culture, and Nutrition Credits: 3

- ECON 5410 - Seminar in Advanced Resource and Environmental Economics Credits: 1-3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 5450 - Negotiation Credits: 3
- ENR 5560 - Conservation Entrepreneurship Credits: 3
- ENR 5600 - Campus Sustainability Credits: 3

- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 -

Environmental Anthropology Credits: 3

- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 5570 - Cultural Geography Credits: 3
- GEOG 5590 - Geography of Conflicts Credits: 3
- NASC 5650 - Place-Based Learning Credits: 3
- REWM 5103 - Range and Ranch Recreation Credits: 3
- GWST 5450 - Ecofeminism Credits: 3

Law & Policy

- ENR 5750 - ENR Law and Policy Credits: 3

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3
- INST 5455 - Energy Security Credits: 3

OR

- POLS 5455 - Energy Security Credits: 3
- LAW 6660 - Environmental Law Credits: 3
- LAW 6700 - Indian

Law
Credits: 3

- LAW 6800 - Public Lands
Credits: 3
- LAW 6860 - Water Law and Policy
Credits: 3
- LAW 6865 - Natural Resources Law
Credits: 3
- POLS 5051 - Environmental Politics
Credits: 3
- POLS 5475 - Politics of Natural Resources in Latin America
Credits: 3

Natural & Physical Sciences

- BOT 5280 - Paleobotany
Credits: 4
- BOT 5700 - Vegetation Ecology
Credits: 4

- BOT 5775 - Forest Ecology Credits: 4

- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1

AND

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1

AND

- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1

- ENR 5285 - Wildland Hydrology Credits: 3

OR

- REWM 5285 - Wildland Hydrology Credits: 4
- ENR 5240 - Disease

Ecology
Credits: 3

OR

- PATB 5240 - Disease Ecology Credits: 3

- GEOG 5450 - Fluvial Geomorphology Credits: 4
- PLNT 5120 - Organic Food Production Credits: 3
- REWM 5000 - Range Resource Management Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- REWM 5750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 5400 -

Community Ecology Credits: 3

- RNEW 5500 - Stable Isotope Ecology Credits: 3
- SOIL 5150 - Forest and Range Soils Credits: 3

Quantitative & Qualitative Methods:

- BOT 5550 - Computational Biology Credits: 4
- COJO 5070 - Quantitative Research Methods Credits: 3

- ENR 5550 - Negotiation Analysis Credits: 3

OR

- AGEC 5550 - Negotiation Analysis Credits: 3

- ENR 5525 - Environmental Data Analysis Credits: 4

OR

- GEOL 5525 - Environmental Data Analysis Credits: 4
- GIST 5100 - Foundations of Geospatial Information Science and Technology Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3
- GIST 5130 - Applied Remote Sensing Credits: 3
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3

Additional Program

Requirements:

- Statement of Purpose: Prior to or concurrent with declaring an Environment and Natural Resources (ENR) graduate major or minor, students must submit a 1-page Statement of Purpose describing how the Haub School's program aligns with their academic and professional goals.
- Cumulative Learning Analysis: Immediately prior to graduation, students must submit a 1-2 page Cumulative Learning Analysis, analyzing

their learning as a whole throughout their graduate work, informed by their coursework, research and co-curricular activities.

- Program Completion Letter: Upon completion of ENR coursework, students will arrange a meeting with their advisor to ensure all requirements have been met. Once this step is complete, their advisor will submit a signed Program Completion Letter to the registrar, indicating the student should receive the ENR concurrent degree.

Environment & Natural Resources Graduate Minor

The Environment & Natural Resources (ENR) graduate minor is designed for doctoral students in any discipline who want to broaden their perspectives, experiences, and critical thinking skills to complex environmental problems.

Program

Overview

The ENR minor is also available to master's students.

Graduate students interested in the concurrent minor in ENR will apply for admission to a primary degree program at the University of Wyoming. Once accepted to their primary graduate program, students must complete an additional online process to confirm their enrollment in the ENR minor. During the Haub School admission process, students submit a one-page

Statement of Purpose. Current application requirements are available online.

In addition to degree requirements of the student's home department, students must complete 12 credit hours:

6 Credit Hours in ENR Core Courses:

- ENR 5100 - Foundations of ENRS Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

6+ Credit Hours in

ENR Electives Courses:

(Choose three+ courses from any of the following categories)

Human Dimensions:

- AGEC 4720 - Water Resource Economics Credits: 3
- AGEC 5660 - Community and Economic Development Credits: 3
- AMST 5030 - Ecology of Knowledge Credits: 3
- ANTH 5260 - Anthropology of Food, Culture, and Nutrition Credits: 3

- ECON 5410 - Seminar in Advanced Resource and Environmental Economics Credits: 1-3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 5450 - Negotiation Credits: 3
- ENR 5560 - Conservation Entrepreneurship Credits: 3
- ENR 5600 - Campus Sustainability Credits: 3

- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 - Environmental Anthropology Credits: 3

- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- GEOG 5570 - Cultural Geography Credits: 3
- GEOG 5590 - Geography of Conflicts Credits: 3
- NASC 5650 - Place-Based Learning Credits: 3
- REWM 5103 - Range and Ranch Recreation Credits: 3
- GWST 5450 - Ecofeminism Credits: 3

Law & Policy:

- ENR 5750 - ENR Law and Policy Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3
- INST 5455 - Energy Security Credits: 3

OR

- POLS 5455 - Energy Security Credits: 3
- LAW 6660 - Environmental Law Credits: 3
- LAW 6700 - Indian Law Credits: 3
- LAW 6800 - Public

Lands
Credits: 3

- LAW 6860 - Water Law and Policy
Credits: 3
- LAW 6865 - Natural Resources Law
Credits: 3
- POLS 5051 - Environmental Politics
Credits: 3
- POLS 5475 - Politics of Natural Resources in Latin America
Credits: 3

Natural & Physical Sciences:

- BOT 5280 - Paleobotany
Credits: 4
- BOT 5700 - Vegetation Ecology
Credits: 4
- BOT 5775 - Forest Ecology
Credits: 4

- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1

AND

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1

AND

- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1

- ENR 5285 - Wildland Hydrology Credits: 3

OR

- REWM 5285 - Wildland Hydrology Credits: 4
- ENR 5240 - Disease Ecology Credits: 3

OR

- PATB 5240 - Disease Ecology Credits: 3

- GEOG 5450 - Fluvial Geomorphology Credits: 4
- PLNT 5120 - Organic Food Production Credits: 3
- REWM 5000 - Range Resource Management Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- REWM 5750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 5400 - Community Ecology Credits: 3

- RNEW 5500 - Stable Isotope Ecology Credits: 3
- SOIL 5150 - Forest and Range Soils Credits: 3

Quantitative & Qualitative Methods:

- BOT 5550 - Computational Biology Credits: 4
- ENR 5550 - Negotiation Analysis Credits: 3

OR

- AGEC 5550 - Negotiation Analysis Credits: 3
- ENR 5525 - Environmental Data Analysis Credits: 4

OR

- GEOL 5525 - Environmental Data

Analysis
Credits: 4

- GIST 5100 - Foundations of Geospatial Information Science and Technology
Credits: 3
- GIST 5150 - Applied Geospatial Analytics
Credits: 3
- GIST 5130 - Applied Remote Sensing
Credits: 3

OR

- RNEW 5130

- STAT 5050 - Statistical Methods for the Biological Science
Credits: 3

Additional Program Requirements:

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Environment & Natural Resources, J.D./M.A.

Through this concurrent degree program law students can add a master's degree in ENR. Students develop experience in interdisciplinary content, analytical tools, and collaborative problem-solving skills for addressing complex natural resource issues.

Juris Doctor

The Juris Doctor requirements are found here: Juris Doctor

Juris Doctor/MA in Environment & Natural Resources

Here you will find information on the Juris Doctor/Master of Arts in Environment and Natural Resources

Program Overview

Applicants to the J.D./M.A. in Environment & Natural Resources (ENR)

must apply to both the College of Law and the Haub School. Admission to the joint degree program is contingent on acceptance to the College of Law. Current application requirements are available online.

Students working toward the J.D./M.A. in ENR consult a Haub School advisor to design a program of study tailored to meet their educational goals.

Students must earn a minimum of 30 credits for the master's degree:

9 Credit Hours

in ENR Core Courses:

Foundations of ENRS

- ENR 5100 - Foundations of ENRS Credits: 3

ENR Policy in Practice

- ENR 5900 - Capstone in ENR Credits: 3

Plan B Writing Seminar (1 credit)

Typically completed in the second semester of the second year. Students

must select an advisor-approved ENR 5890 section to meet this requirement.

- ENR 5890 - Topics in Environment and Natural Resources Credits: 1-6

Plan B Thesis: JD/MA (2 credits)

- ENR 5961 - Plan B Project Credits: 1

9 Credit Hours in ENR Electives Courses:

Students must take a minimum of 9 credits

outside the College of Law. Courses familiarize students with non-law ENR perspectives and approaches. Students work with a Haub School advisor to select courses from an approved list.

(Choose three+ courses in consultation with Haub School advisor):

Humanities

- AMST 5030 - Ecology of Knowledge Credits: 3
- ANTH 5620
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 5560 - Conservation

Entrepreneurship Credits: 3

- ENR 5600 - Campus Sustainability Credits: 3

- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- NASC 5650 - Place-Based Learning Credits: 3
- GWST 5450 - Ecofeminism Credits: 3

Environmental Science

- BOT 5280 - Paleobotany Credits: 4

- BOT 5700 - Vegetation Ecology Credits: 4
- BOT 5775 - Forest Ecology Credits: 4

- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1

AND

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1

AND

- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1

- ENR 5240 - Disease Ecology Credits: 3

OR

- PATB 5240 - Disease

Ecology
Credits: 3

- ENR 5285 - Wildland Hydrology Credits: 3

OR

- REWM 5285 - Wildland Hydrology Credits: 4
- GEOG 5450 - Fluvial Geomorphology Credits: 4
- PLNT 5120 - Organic Food Production Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- RNEW 5400 - Invasive Plant Ecology Credits: 3
- RNEW 5500 - Stable Isotope

Ecology Credits: 3

- SOIL 5150 - Forest and Range Soils Credits: 3

Social Science

- AGEC 4720 - Water Resource Economics Credits: 3
- AGEC 5660 - Community and Economic Development Credits: 3
- ECON 5410 - Seminar in Advanced Resource and Environmental Economics Credits: 1-3
- ENR 5750 - ENR Law and Policy Credits: 3
- ENR 5450 - Negotiation Credits: 3

OR

- AGEC 5450 - Negotiation Credits: 3
- ENR 5550 - Negotiation Analysis Credits: 3

OR

- AGEC 5550 - Negotiation Analysis Credits: 3
- ENR 5050 - Techniques in Environmental Data Management Credits: 4

OR

- ECOL 5050 - Techniques in Environmental Data Management Credits: 4

- ENR 5525 - Environmental Data Analysis Credits: 4

OR

- GEOL 5525 - Environmental Data Analysis Credits: 4

- POLS 5051 - Environmental Politics Credits: 3
- GIST 5130 - Applied Remote Sensing Credits: 3
- GIST 5211 - Advanced Remote Sensing Credits: 3
- INST 5445 - Drug War Geopolitics in the Americas Credits: 3

OR

- POLS 5445 - Drug War Geopolitics in the Americas Credits: 3
- INST 5455 - Energy Security Credits: 3

OR

- POLS 5455 - Energy Security Credits: 3
- INST 5475 - Politics of Natural Resources in Latin America Credits: 3

OR

- POLS 5475 - Politics of Natural Resources in Latin America Credits: 3
- POLS 5710 - Topics In Political Science Credits: 1-3
- REWM 5000 - Range Resource Management Credits: 3
- REWM 5103 - Range and Ranch Recreation Credits: 3
- STAT 5050 - Statistical Methods for the Biological Science Credits: 3

12 Credit Hours in Environmental and Natur

al Resources Law Specialization Courses:

Students will take 12 credits to gain depth in ENR law, selected from the following options in consultation with Haub School advisor. Special approval may be granted for special topics courses.

- LAW 6510 - Administrative Law Credits: 3
- LAW 6660 - Environmental Law Credits: 3
- LAW 6700 - Indian Law Credits: 3

- LAW 6790 - Oil and Gas Credits: 3
- LAW 6800 - Public Lands Credits: 3
- LAW 6860 - Water Law and Policy Credits: 3
- LAW 6890 - Land Use Law Credits: 3
- LAW 6910 - Seminar Credits: 1-2
- LAW 6991 - Advanced Water Law and Policy Credits: 3
- LAW 6992 - Advanced Oil and Gas Law Credits: 3
- LAW 6915 - Topics in Law Credits: 1-3
- LAW 6500 - Agricultural Law

Plan B Project

Research

Students must complete a cumulative work of scholarship known as the Plan B project. The Plan B offers more flexibility than a traditional thesis in content and format. Students will be required to choose a Haub School faculty committee chair and at least two additional committee members. Committee composition is subject to approval by the program chair and Dean of the Haub School. A public oral defense of the project is required. All members of the student's committee must be

present at the defense. The student's committee has to give final approval of the student's Plan B thesis and defense via a report of final examination.

Environment, Natural Resources & Society, M.S.

This master's degree program develops collaborative, interdisciplinary leaders in environmental fields such as natural

resource management, planning, and administration across nonprofit, for profit, government, and academic settings.

Program Overview

Students earning the master of science in Environment, Natural Resources & Society (ENRS) will consult a Haub School advisor to design a program of study tailored to meet their educational goals. Students take courses and complete a Plan A research thesis or Plan B research project focusing

on issues pertinent to environmental or natural resources management or policy.

Graduates of this program will:

- develop an interdisciplinary and collaborative mindset;
- experience critical engagement with community stakeholders and decision-makers;
- excel in team-based collaborative environments;
- gain experience in relevant and emergent research methods and practices;
- demonstrate excellent written, oral, and digital communication across

a range of audiences and purposes, including developing expertise in public engagement;

- apply conceptual, critical, and creative thought to relevant environmental and natural resource issues; and,
- analyze and evaluate complex systems that contribute to inclusive, sound, and well-informed decisions.

Applicants to the M.S. in Environment, Natural Resources & Society must apply directly to the University of Wyoming. Applications for graduate assistantships should be directed

to the Haub School. Current application requirements are available online.

Students must earn a minimum of 32 credit hours for the Plan A thesis option and 30 credit hours for the Plan B option:

11 Credit Hours in ENRS Core Courses:

- ENR 5001 - Orientation to ENRS Credits: 2
- ENR 5100 - Foundations of ENRS Credits: 3
- ENR 5900 - Capstone in ENR Credits: 3

- ENR 5921 - Collaborative Practicum Credits: 1-3 (3 credits; may be completed for 1+ credit hours over multiple semesters)

Plan A Thesis Credit (4 credit hours):

- ENR 5960 - Thesis Research Credits: 1-12

Or Plan B Thesis Credit (2 credit hours):

- ENR 5961 - Plan B Project Credits: 1

17 Credit Hours in ENRS Electives:

Students will consult with their Haub School advisor to choose electives that support their plan of study and Plan A or Plan B thesis. Choose courses from any of the following categories:

Social & Cultural Sciences

- AGEC 4720 - Water Resource Economics Credits: 3
- AGEC 5660 -

Community and Economic Development Credits: 3

- AMST 5030 - Ecology of Knowledge Credits: 3
- ANTH 5260 - Anthropology of Food, Culture, and Nutrition Credits: 3
- ECON 5410 - Seminar in Advanced Resource and Environmental Economics Credits: 1-3
- ENR 5560 - Conservation Entrepreneurship Credits: 3
- ENR 5600 - Campus Sustainability Credits: 3
- ENR 5910 - Collaborative Practice Methods Credits: 3

- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 - Environmental Anthropology Credits: 3

- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3

- GEOG 5570 - Cultural Geography Credits: 3
- GEOG 5590 - Geography of Conflicts Credits: 3
- GWST 5450 - Ecofeminism Credits: 3

- NASC 5650 - Place-Based Learning Credits: 3
- REWM 5103 - Range and Ranch Recreation Credits: 3

Law & Policy

- ENR 5750 - ENR Law and Policy Credits: 3
- ENR 5890 - Topics in Environment and Natural Resources Credits: 1-6

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal

Land Politics Credits: 3

- INST 5455 - Energy Security Credits: 3

OR

- POLS 5455 - Energy Security Credits: 3

- LAW 6660 - Environmental Law Credits: 3
- LAW 6700 - Indian Law Credits: 3
- LAW 6800 - Public Lands Credits: 3
- LAW 6860 - Water Law and Policy Credits: 3
- LAW 6865 - Natural Resources Law Credits: 3
- POLS 5051 - Environmental Politics Credits: 3
- POLS 5475 - Politics of

Natural Resources in Latin America
Credits: 3

Natural & Physical Sciences

- BOT 5280 - Paleobotany
Credits: 4
- BOT 5700 - Vegetation Ecology
Credits: 4
- BOT 5775 - Forest Ecology
Credits: 4

- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist
Credits: 1

AND

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics
Credits: 1

AND

- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1

- ENR 5285 - Wildland Hydrology Credits: 3

OR

- REWM 5285 - Wildland Hydrology Credits: 4

- ENR 5240 - Disease Ecology Credits: 3

OR

- PATB 5240 - Disease Ecology Credits: 3

- GEOG 5450 - Fluvial Geomorphology Credits: 4
- PLNT 5120 - Organic Food Production Credits: 3
- REWM 5000 -

Range Resource Management Credits: 3

- REWM 5400 - Community Ecology Credits: 3
- REWM 5580 - Rangeland Restoration Ecology Credits: 3
- REWM 5710 - Watershed Water Quality Management Credits: 3
- REWM 5750 - Wildlife Habitat Restoration Ecology Credits: 3
- RNEW 5500 - Stable Isotope Ecology Credits: 3
- SOIL 5150 - Forest and Range Soils Credits: 3

Communication

- ENR 5270 -

Writing and Reviewing Science Credits: 4

- ENR 5450 - Negotiation Credits: 3

OR

- AGEC 5450 - Negotiation Credits: 3

- ENR 5870 - Graduate Seminar Credits: 1

Quantitative & Qualitative Methods

- BOT 5550 - Computational Biology Credits: 4
- COJO 5070 - Quantitative Research Methods Credits: 3

- ENR 5550 - Negotiation Analysis Credits: 3

OR

- AGEC 5550 - Negotiation Analysis Credits: 3

- ENR 5525 - Environmental Data Analysis Credits: 4

OR

- GEOL 5525 - Environmental Data Analysis Credits: 4

- GIST 5050 - Basics of Spatial Data Science Credits: 3
- GIST 5100 - Foundations of Geospatial Information Science and Technology Credits: 3
- GIST 5150 - Applied Geospatial Analytics Credits: 3

- GIST 5130 - Applied Remote

Sensing
Credits: 3

OR

- RNEW 5130

- STAT 5050 - Statistical Methods for the Biological Science
Credits: 3

Plan A or Plan B Project Research:

Both Plan A and Plan B theses lead to original thought, synthesis, or integration of relevant elements of scholarship on issues pertinent to environmental and natural resources management or policy. The Plan A thesis will incorporate original research

and data analysis on an applied environmental or natural resource management problem. The Plan B thesis project is somewhat more flexible and may take a variety of forms. Students will consult their major advisor and graduate committee on the form and content of the Plan A and Plan B thesis.

Other Programs

UW Credit Options for NOLS

UW recognizes

the following credit options for taking a NOLS course:

Short Courses (less than 14 days)

Students may be eligible to complete 2 Hours of UW credits in the following course(s).

- ENR 4960 - Field Studies in: Credits: 1-6 **

Quarter Length Courses (14-65 days)

Students may be eligible to complete up to 9 hours in the following courses.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **

Semester & Year-long Courses (more than

65 days)

Students may be eligible to complete up to 12-24 hours in the following courses.

For year-long courses, independent study credits are also available.

- ENR 2410 - Introduction to Outdoor Leadership Credits: 3 **
- ENR 4960 - Field Studies in: Credits: 1-6 **
- ENR 4970 - ENR Internship Credits: 1-6 **
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6 **

- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3 ***

Note:

**There are additional course requirements for 4000-level NOLS credit. Syllabi and course expectations will be shared upon enrollment. ***For courses with a Wilderness First Responder component only.

Information Literacy

Coe Library 304

Phone: (307) 766-5313

The University Libraries offer research assistance and information literacy instruction to students and faculty. Librarians provide customized class orientations to information sources in every discipline, as well as individual research consultations. Students needing research help may call, text, email, instant message, or visit any library branch.

The University of Wyoming addresses information competencies utilizing the

Framework for Information Literacy for Higher Education as approved by the Association of College & Research Libraries (ACRL) and endorsed by the American Association for Higher Education. Librarians collaborate with teaching faculty in addressing these information competencies in course assignments or lectures. Information literacy is the ability to recognize and define the need for information, then locate, evaluate, and use that information

effectively and ethically.

Information literacy learning outcomes are included in University Studies First Year Seminar (FYS) and Communication (COM) courses and are similar to the critical thinking learning outcomes in the H, PN, and V courses.

The Libraries also offer credit courses to help students improve research skills and to meet the Communications 2 requirement of the University Studies Program.

Learning

Outcomes

We expect that students completing LBRY courses will become knowledgeable consumers of information through learning how to:

- Recognize and define the need for information;
- Efficiently locate information in the library or on the Internet;
- Evaluate the quality of information;
- Utilize information effectively, ethically, and legally.

Librarians

DAVID D. KRUGER, B.S. South Dakota State University 1991; B.S.Ed. Minot State University 1994; M.A. Kansas State University 1996; M.L.S. University of Missouri at Columbia 1998; Librarian 2016, 1998.

Associate Librarians

STEPHEN C. BOSS, B.M. Simpson College 1983; B.A. 1984; M.L.S. University

of Denver 1985; M.A. 1986; Associate Librarian 2008, 2002.

KAIJSA J. CALKINS, B.A. University of Washington, Bothell 2001, M.L.I.S. University of Washington, Seattle 2004; Associate Librarian 2012, 2006.

JANICE GROVER, B.A. University of Wyoming 2005; M.L.S. Emporia State University 2009; M.A. University of Wyoming 2017; Associate Librarian 2021.

Assistant Libr

arian

s

SAMANTHA PETER, B.A. University of Wyoming 2016; M.S.I.S. University of Texas at Austin 2018; Assistant Librarian 2018.

JESSICA RARDIN, B.A. Beloit College 2013; M.L.I.S. University of Wisconsin-Milwaukee 2021; Assistant Librarian 2021.

SHANNON SMITH, B.A. Southern Oregon University 2007; M.L.I.S University of Washington 2019; Assistant Librarian 2023.

School of Energy Resources

Energy Innovation Center, RM 301
Phone: (307)766-6879

Holly Krutka, Executive Director
Website: https://www.uwyo.edu/ser/

The School of Energy Resources facilitates interdisciplinary academic and research programs in engineering and science, economics, land management, and environment and natural

resources policy to address critical energy-related issues faced by our society.

Our mission is to leverage and add to the already significant energy-related talent and resources in the University of Wyoming colleges to develop human resources, know-how, and technical solutions to ensure a secure and sustainable energy future for the state, region, and nation.

The University of Wyoming (UW) School of Energy Resources (SER) was created in 2006 by the Wyoming

Legislature through State Statute 21-17-117. Our goal is to enhance the university's energy-related education, research, and engagement. SER directs and funds cutting-edge energy research and technology development, which integrates with the formulation and conduct of academic programs at UW and bridges academics and industry through targeted engagement efforts. The bridges formed between academics and industry ensure programs are relevant, current, and deliver

impact and high value to stakeholders and the state. Since its inception in 2006, SER has maintained flexibility in its focus and structure to meet the changing needs of Wyoming's energy industries and the state's economy which is now more critical than ever.

Emeritus Faculty:

SER Professor of Chemistry and Warren Chair of Energy and Environment
BRUCE A. PARKINSON, B.S. Iowa State University 1972; Ph.D. California Institute of Technolog

y 1977; SER Professor of Chemistry 2008.

Professors:

SER Professor of Energy Economics
TIMOTHY J. CONSIDINE, B.A. Loyola University 1975; M.S. Purdue University 1977; Ph.D. Cornell University 1981; SER Professor of Energy Economics 2008.

SER Professor of Mathematics
CRAIG C. DOUGLAS, A.B. Chicago University 1977; M.S. Yale University 1978; M.Phil. 1980; Ph.D. 1982; SER Professor

of Mathematics 2008.

SER Professor of Chemical and Petroleum Engineering and the Carrell Endowed Chair MA OHONG FAN, B.S. Wuhan University of Science and Engineering, 1984; M.S. Beijing University of Science and Technology, 1992; Ph.D. Chinese Academy of Sciences, 1997; Ph.D. Iowa State University, 2000; Ph.D. Osaka University 2003; SER Professor of Chemical Engineering 2015, 2008.

SER Professor of Geology and Geophysics and John and Jane Wold Centennial Chair in Energy
JOHN P. KASZUBA, B.S. Beloit College, 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines, 1997; SER Professor Geology & Geophysics, 2019, 2008.

SER Professor of Geology and Geophysics
SUBHASHIS MALLICK, B.Sc. Indian Institute of Technology 1976; M.Sc. 1978; Ph.D. University

of Hawaii 1987; SER Professor of Geology & Geophysics 2008.

SER Professor of Law and Occidental Chair in Energy and Environmental Policies TARA RIGHETTI, B.A. University of Colorado Boulder 2005; J.D. 2007; SER Professor of Law 2020, 2017, 2014.

SER Professor of Geology and Geophysics and Wyoming Excellence Chair DARIO GRANA, B.S. University of Pavia, 2003; M.S. 2005; M.S. University

of Milano Bicocca, 2006; Ph.D. Stanford University, 2013; SER Professor of Geology and Geophysics 2022, 2018, 2013.

SER Professor of Environment and Natural Resources BRYAN LEONARD, B.A. Hillsdale College, 2010; M.S. Montana State University, 2012; Ph.D. University of California, Santa Barbara, 2016. SER Professor of Environment and Natural Resources 2024.

Associate Professors:

SER Associate

Professor of Geology and Geophysics PO CHEN, B. S. Beijing University 2000; Ph.D. University of Southern California 2005; SER Associate Professor of Geology and Geophysics 2014, 2008.

Assistant Professors:

SER Assistant Professor of Soil Sciences

Academic Professional:

SER Professional Land Management Director KRISTEN PRITCHETT, B.B.A. Texas A&M University, 2009;

MREF, Texas A&M University, 2010; Master of Positive Psychology and Educational Counseling, University of Missouri, 2016.

SER Energy and Environmental Systems Director RANDALL VIOLETT, B.S. Montana State University, 1986; M.S. Montana State University, 1996; Ph.D. University of Wyoming, 2012.

SER Student Success and Experiential Learning Director ASHLI

TOMISICH, B.S. Oklahoma Christian University, 2008; J.D. University of Wyoming, 2011; Ph.D. University of Wyoming, 2023.

Adjunct Professors:

ERICA BELMONT, B.S. Tufts University 2004; M.S. 2008; Ph.D. University of Texas at Austin 2014; Associate Professor of Mechanical Engineering 2020, 2014.

BENJAMIN COOK, B.S. University of Wyoming 2003; Ph.D. 2011; Associate Lecturer/Enhanced

Oil Recovery Institute 2012.

MARY LOU DUNZIK-GOUGAR, B.S. Cedar Crest College; M.S. Pennsylvania State University; PhD. Pennsylvania State University; Associate Dean and Professor of the College of Science and Engineering and ISU Reactor Administrator.

SOHEIL SARAJI, B.S. Petroleum University of Technology 2004; M.Sc. Sharif University of Technology 2007; Ph.D. University of

Wyoming 2013; Associate Professor of Energy and Petroleum Engineering 2022, 2016

TEMPLE STOELLINGER, B. S. University of Wyoming 2004; J.D. University of Wyoming 2010; Associate Professor of Law & Haub School 2020, 2015 and Wyoming Excellence Chair.

JONATHAN NAUGHTON, B.S. Cornell University 1986; Ph.D. Pennsylvania State University 1993; Professor of Mechanical Engineerin

g 2012, 1997.

KAM NG, B.S. Iowa State University 1996; M.S. 1997; Ph.D. 2011; Associate Professor of Civil Engineering 2019, 2012.

HAIBO ZHAI, Roy & Caryl Cline Endowed Chair in Engineering, Environment, and Natural Resources, B.S. Xi'an University of Technology 1999; M.S. Tongji University 2002; Ph.D. North Carolina State University, 2008; Associate Professor of Civil Engineering, 2020.

Accreditation

All programs at the University of Wyoming are accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education. In addition, the Professional Land Management Concentration is one of only a few programs accredited nationally by the American Association of Professional Landmen.

Graduates from the PLM program are afforded the opportunity to sit for the Registered Landman exam. Individuals with certificatio n can increase their salary by 20% on average. Visit *land man.org* to learn more.

SER Vision Statement

SER pursues the creation, sharing, and implement ation of technology and knowledge for sustainable economic production of Wyoming's natural resources to generate additional employme

nt and revenue opportunities for the state that include supply of clean energy and materials and products.

SER Mission Statement

The School of Energy Resources' academic mission is to ensure students within its interdisciplinary academic programs can illustrate a foundational understanding of fundamentals relative to energy companies and systems. In order to prepare students to meet the demands of the modern-day workforce, students will utilize critical thinking

skills, negotiation techniques, and problem-solving methods applicable to a diverse array of energy projects.

Program Admission

Undergraduate students will apply for admission to the University of Wyoming and then declare a major and concentration, the minor, or a certificate within SER at any point during their course of study. To declare a major and concentration or a certificate, students must meet with an SER representative. Any student with a 2.0 GPA can

add the SER minor at any time without meeting with an SER representative.

One of the most important challenges of the 21st century will be to develop and manage energy resources in a sustainable manner. Projections show energy consumption worldwide will increase nearly 50 percent by 2035. And half of the leadership in the energy industries is expected to retire in the next five to ten years.

The future of energy will be characterized by increasing knowledge,

relentless change, and technological innovation. As global energy industry increases in complexity, demand will dramatically grow for professionals with a multidisciplinary, entrepreneurial skillset. Future leaders must understand complex technology within the context of business, legal, social, and public policy in order to create comprehensive and sustainable solutions.

The Energy Resource Management and Development (ERMD) B.S. program is designed to fill this

need through a combination of rigorous courses, real-world internships, and undergraduate research experiences. The curriculum balances depth of learning with the breadth of understanding to train graduates for sustained competitive success in the energy workforce at the frontiers of knowledge and for self-directed, life-long learning. Students learn to focus on continuous improvement, constant assessment, and the importance of a sense of urgency and consideration of profit motive in

the energy industry.

Our program emphasizes career planning and provides constant one-on-one guidance and assistance to ensure optimal workforce placement. Students are strongly encouraged to complete an industry internship (the minimum GPA requirement is typically 3.000). Opportunities are also available for undergraduate research, a study abroad experience, or a summer field course. Multiple events during the year connect students to

energy industry professionals.

General Policies

- A minimum 2.00 UW GPA is required to apply for the minor and the certificates.
- It is the student's responsibility to monitor requirements for the minor and the certificates, along with their assigned advisor.
- Additional courses may be required to meet individual course prerequisites.
- All classes in the major and minor must be passed with a grade of "C" or better.

Student Learning Outcomes

The School of Energy Resources was created in 2006 to enhance the University of Wyoming's energy-related education, research, and outreach. The Energy Resource Management and Development Program is designed to meet the demands of the energy workforce and enhance social literacy related to complex energy issues. Competency-based learning that integrates problem-solving, critical analysis of uncertain and complex issues, and

constant improvement in performance are overarching components of our undergraduate program.

Energy Resource Management and Development B.S. Program and Energy Resource Management Minor Learning Outcomes:

- Identify or describe fundamental concepts of energy systems.
- Illustrate a foundational understanding of business fundamentals relative to energy companies, including organizational structure, management, entrepreneurship, and

international commerce.

- Make use of critical thinking and problem-solving methods within a written group energy project.

Energy and Environmental Systems Concentration and Energy and Environmental Systems 3+3 Concentration Learning Outcomes:

- Outline the skills in environmental monitoring and compliance.
- Explain energy regulation and management.
- Demonstrate the necessary

skills related to the physical and social science dimensions of sustainability.

Professional Land Management Concentration and Professional Land Management Concentration 3+3 Learning Outcomes:

- Apply concepts and skills to real-world problems to gain practical understanding and experience.
- Identify and navigate a valid real property transaction from contract to transfer of title.
- Define and navigate the legal and regulatory hurdles for

energy
developme
nt on
federal,
state, and
fee lands.

Carbon Capture Utilization and Storage Learning Outcomes:

- Students will identify geological criteria for site selection, geophysical models of the subsurface for characterization and monitoring and minimizing risks related to transport and guaranteeing long-term storage of fluids in the subsurface.

- Define and navigate the legal and regulatory hurdles for energy
developme
nt/environ

mental challenges on federal, state, and fee lands.

- Build techno-economic models capable of analyzing energy projects.
- Students will demonstrate the process necessary to effectively communicate with stakeholders, the general public, and stakeholders of a CCUS project to ensure concerns are explored and different communication methods considered based on the audience.

Land Administration Learning Outcomes:

- Identify and navigate a

valid real property transaction from contract to transfer of title.

- Explain energy, natural resources, or agricultural regulation and management.
- Describe content and implications of past and current ENR, Ag, and property policies/laws.

Major

Energy Resource Management and Development, 3+3

Energy and Environmental Systems, B.S.

UW offers qualified undergraduate students a fast-track to a Juris Doctorate. The 3+3 EES Program at UW is an opportunity for qualified undergraduate students to earn their **bachelor's degree and law degree in six years** instead of seven years.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3

- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy and Environmental Systems (EES)

- Students accepted by UW College of Law (COL) into the EES 3+3 program begin taking classes at COL in what would otherwise be their senior year. Year one of law school (31 credits) counts toward both the BS and the JD degrees. Students must select one path for Years 1-3, either Energy and Environmental Systems or Professional Land Management. Following are the requirements for EES 3+3.
- EES majors can become environmental scientists who collect samples of

air, soil, & water to identify environmental impacts, resolve environmental threats, & provide guidance on quality regulation and manage natural resources.

- Students will complete a minimum of 85-95 credits in their baccalaureate (undergraduate) program by the end of their junior year (including required general education and major courses). Students will complete 90 credits with the College of Law. Students will be granted a BS upon completion of the 120 credit hours required

for the undergraduate degree in BS-ERMD (using year one of College of Law coursework), with a cumulative minimum UW GPA of 2.0 or higher. Students must complete 42 hours of upper-division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. During the Energy Resource Management and Development program (years 1-3), students will be advised by the School of Energy Resources advisor. During the College of Law program (years 4-6), students will receive

advising from the College of Law.

EES Core Required Curriculum

- ACCT 2010 - Principles of Accounting I Credits: 3
- CHEM 1000 - Introductory Chemistry Credits: 4
- DSCI 4260 - Project Management Credits: 3
- ECON 1020 - Principles of Microeconomics Credits: 3

OR

- AGEC 1020 - Principles of Microeconomics Credits: 3
- ECON 1300 - Oil: Business,

Culture, and Power Credits: 3

- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENR 1000 - Energy and Society Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4
- LIFE 1010 - General Biology Credits: 4
- LIFE 2023 - Biology of Plants

and Fungi
Credits: 4

- LIFE 3400 - General Ecology
Credits: 3
- MATH 2200 - Calculus I
Credits: 4
- PLNT 1000 - Agroecology
Credits: 4
- PLNT 4070 - Weed Science and Technology
Credits: 4
- REWM 2000 - Principles of Rangeland Management
Credits: 3
- REWM 2400 - Range Ecosystems and Plants
Credits: 4
- REWM 3100 - Principles of Wildland Water Quality
Credits: 3

OR

- ENR 3100 - Principles of

Wildland Water Quality Credits: 3

- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM 2, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 -

Writing in Technology and the Sciences Credits: 3

- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3

(Recommended)

- GEOL 2220 - Communicating Earth Science Credits: 3
- HP 2020 - Honors Colloquium II Credits: 3

COM 3, Pick ONE

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- AGRI 4600 - Developing Organizational Leadership Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3

- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4040 - Rhetoric, Media, and Culture Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- ESS 4950 - Exploring the Earth System Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- ZOO 4100 - Scientific Communication Credits: 2
- REWM 4900 - Rangelan

d Management Planning Credits: 3

Technical Elective, EES, Pick ONE

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3

OR

- AMST 3050 - Cultures of Nature in the United States Credits: 3

OR

- GWST 3050 - Cultures of Nature in the United States Credits: 3

- ENR 3130 - Environmental Quality Credits: 3

OR

- SOIL 3130 - Environmental Quality Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

OR

- GEOG 3450 - Weather and Climate Credits: 3

OR

- GEOL 3450 - Weather and Climate Credits: 3
- ENR 3620 - Environmental Justice Credits: 3

OR

- POLS 3620 - Environmental Justice Credits: 3
- ENR 3700 - Wyoming Conservat

ion Corps Practicum Credits: 1

- ENR 3750 - Natural Resource Planning and Economics Credits: 3

OR

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3
- ENR 3950 - Environmental Sociology Credits: 3

OR

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4010 - Winter Ecology: Skills of the Winter

Naturalist Credits: 1

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1
- ENR 4030 - Ecology of Knowledge Credits: 3

OR

- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3

- ENR 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- POLS 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- ENR 4240 - Disease Ecology Credits: 3

OR

- PATB 4240 - Disease Ecology Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3

OR

- REWM 4285 - Wildland Hydrology Credits: 4
- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3

OR

- HIST 4412 - Global Environment History Credits: 3
- ENR 4420 - Conservation Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ENR 4430 - Green Chemistry and Global Environm

ental Problems Credits: 3

OR

- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CHE 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ENR 4500 - Risk Analysis Credits: 4
- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ENR 4560 - Conservation Entrepreneurship Credits: 3

- ENR 4600 - Campus Sustainability Credits: 3
- ENR 4700 - Media, Science, and Society Credits: 3

OR

- COJO 4700 - Media, Science, and Society Credits: 3
- ENR 4800 - Historic Preservation Credits: 3

OR

- AMST 4800 - Historic Preservation Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- ENR 4950 - Leadership in Natural Resources Managem

ent
Credits: 2

- ENR 4960 - Field Studies in: Credits: 1-6
- ENR 4970 - ENR Internship Credits: 1-6
- ENR 4975 - Independent Study Credits: 1-6
- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

OR

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3480 - Environmental Change Credits: 3

OR

- ESS 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4013 - Political Geography Credits: 3

OR

- INST 4013 - Political Geography Credits: 3
- GEOG 4080 - Management of Major River

Basins
Credits: 3

- GEOG 4113 - Geological Remote Sensing
Credits: 4

OR

- GEOL 4113 - Geological Remote Sensing
Credits: 4
- GIST 1001 - GIST Orientation and Portfolio
Credits: 1
- GIST 1200 - Geospatial Foundations
Credits: 3
- GIST 2110 - Techniques in Cartography
Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications
Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Informatio

n Science and Technology Credits: 3

- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processin

g Credits: 3

- GIST 4790 - Special Topics in Geospatial Information Science and Technology Credits: 1-6
- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6
- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3390 - Range

Judging Credits: 2

- REWM 3500 - Rangeland Plant Ecophysiology Credits: 3
- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4103 - Range and Ranch Recreation Credits: 3
- REWM 4150 - Behavior Modification for Production of Grazing Herbivores Credits: 3
- REWM 4300 - Grass Taxonomy Credits: 3
- REWM 4330 - Rangelan

d Ecosystem Assessment and Monitoring Credits: 4

- REWM 4340 - Reclamation Techniques Field Trip Credits: 2
- REWM 4440 - Applied Fire Ecology Credits: 3
- REWM 4500 - Rainfall-Runoff Modeling Credits: 3
- REWM 4530 - Seminar Credits: 1
- REWM 4540 - Problems Credits: 1-4
- REWM 4550 - Internship in: Credits: 1
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4810 - Experiments in Restoratio

n Credits: 2

- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4
- RNEW 3000 - Tropical Ecology Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

OR

- GIST 4130 - Applied Remote Sensing Credits: 3

OR

- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4400 - Invasive Plant Ecology Credits: 3

OR

- PLNT 4400 - Invasive

Plant Ecology Credits: 3

- RNEW 4775 - Forest Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4
- RNEW 4800 - Undergraduate Research Credits: 1-3
- SOIL 3000 - Irrigated Agriculture Credits: 3

OR

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2
- SOIL 4120 - Genesis, Morphology and Classificat

ion of Soils
Credits: 4

- SOIL 4130 - Chemistry of the Soil Environment
Credits: 3
- SOIL 4140 - Soil Microbiology
Credits: 4

OR

- MICR 4140 - Soil Microbiology
Credits: 4
- SOIL 4150 - Forest and Range Soils
Credits: 3

College of Law Required Courses (Years 4-6)

Please visit the College of Law Juris Doctor program.

Energy Resource Management and Development, 3+3 Professional Land Management, B.S.

UW offers qualified undergraduate students a fast-track to a Juris Doctorate. The 3+3 PLM program at UW is an opportunity for qualified undergraduate

students to earn their **bachelor's degree and law degree in six years** instead of seven years.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss

their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective -

- Any 3-credit hour of FYS or 3-credit hours of USP electives
Credits: 3

Professional Land Management (PLM)

- Students accepted by UW College of Law (COL) into the 3+3 program begin taking classes at COL in what would otherwise be their senior year. Year one of law school (31 credits) counts toward both the BS in ERMD and the JD degrees. Students must select one path for Years

1-3, either Energy and Environmental Systems or Professional Land Management. Following are the requirements for PLM 3+3.

- Professional Land Management majors determine ownership and title of surface and subsurface rights, negotiate leases between owners and energy developers, ensure federal and state regulatory compliance in energy development, and negotiate and maintain company contractual obligations for development and the subsequent profits.
- Students will complete a minimum

of 85-95 credits in their baccalaureate (undergraduate) program by the end of their junior year (including required general education and major courses). Students will complete 90 credits with the College of Law. Students will be granted a BS upon completion of the 120 credit hours required for the undergraduate degree in BS-ERMD (using year one of College of Law coursework), with a cumulative minimum UW GPA of 2.0 or higher. Students must complete 42 hours of upper-

division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. During the Energy Resource Management and Development program (years 1-3), students will be advised by the School of Energy Resources advisor. During the College of Law program (years 4-6), students will receive advising from the College of Law.

PLM Core Required Curriculum

- ACCT 2010 - Principles of Accountin

g I
Credits: 3

- ACCT 2020 - Principles of Accounting II
Credits: 3
- DSCI 4260 - Project Management
Credits: 3
- ECON 1020 - Principles of Microeconomics
Credits: 3

OR

- AGEC 1020 - Principles of Microeconomics
Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power
Credits: 3
- ENGL 1010 - College Composition and Rhetoric
Credits: 3
- ENR 1000 - Energy and Society
Credits: 3
- ERS 2010 - Introducti

on to Land Management Credits: 3

- ERS 4010 - Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4482 - Global Climate Governance Credits: 3

OR

- ERS 4502 - Energy Finance Credits: 3
- ERS 4985 - Seminar Credits: 1-3

Required

in the Spring of First Year of Law School

- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6
- FIN 2100 - Principles of Finance Credits: 3
- GEOL 1100 - Physical

Geology
Credits: 4

- GIST 2200 - Spatial Data Visualization
Credits: 3
- GIST 2310 - Intro to Geographic Information Systems
Credits: 4
- MATH 1405 - Trigonometry
Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry
Credits: 5
- MATH 2200 - Calculus I
Credits: 4

OR

- MATH 2350 - Business Calculus
Credits: 4
- MGT 2100 - Management and Organizations
Credits: 3
- STAT 2050 - Fundamentals of

Statistics
Credits: 4

COM 2, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the

Anthropocene
Credits: 4

- ENR 3300 - Environmental Policy, Conservation and Development in India
Credits: 3
- ERS 3000 - Energy Project Outreach and Communications
Credits: 3
(Recommended)
- GEOL 2220 - Communicating Earth Science
Credits: 3
- HP 2020 - Honors Colloquium II
Credits: 3

COM 3, Pick ONE

- AGEC 4965 - Agribusiness Entrepreneurship
Credits: 3

- AGRI 4600 - Developing Organizational Leadership Credits: 3
- COJO 3010 - Business and Professional Communication Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4040 - Rhetoric, Media, and Culture Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 4900 -

Capstone in ENR
Credits: 3

- **Concurrent ENR majors must take ENR 4900**
- ESS 4950 - Exploring the Earth System
Credits: 3
- POLS 4840 - Seminar in Public Law
Credits: 3
- REWM 4900 - Rangeland Management Planning
Credits: 3
- ZOO 4100 - Scientific Communication
Credits: 2

Data Analysis Elective, Pick ONE

- ENR 4500 - Risk Analysis
Credits: 4

- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- ERS 4975 - Global Experience in Energy Credits: 2-4

- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- GEOL 2120 - Quantitative GeoMethods Credits: 3
- GEOL 4250 - Mathematical Geosciences Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3 **(Recommended)**
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 4100 - Tribal Government Credits: 3
- NAIS 4340 -

Natural Resource Management on Western Reservations Credits: 3

- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Economics Elective, Pick ONE

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4600 - Community

Economic Analysis Credits: 3

- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ECON 4420 - Seminar: Economics for ENR Credits: 2-4
- ERS 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

OR

- ECON 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

Negotiation Elective, Pick ONE

- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

College of Law Required Courses (Years 4-6)

Please visit the College of Law Juris

Doctor Program.

Energy Resource Management and Development, Energy & Environmental Systems Concentration, B.S.

EES majors can become environmental scientists who collect samples of air, soil, &

water to identify environmental impacts, resolve environmental threats, & provide guidance on quality regulation and manage natural resources.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constituti

on
Credits: 3

- FYS or USP Elective -- Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Energy and Environmental Systems (EES) Core Curriculum

Students must earn a letter

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Development.

- ACCT 2010 - Principles of Accounting I
Credits: 3
- AGEC 1020 - Principles of Microeconomics
Credits: 3

OR

- ECON 1020 - Principles of Microeconomics
Credits: 3
- DSCI 4260 - Project Management
Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power
Credits: 3
(USP: H)
- ENGL 1010 - College Composition and

Rhetoric
Credits: 3

- ENR 1000 - Energy and Society
Credits: 3

(USP: PN)

- ENR 4750 - ENR Law and Policy
Credits: 3
- ERS 3010 - Air Quality Management
Credits: 3
- ERS 4120 - Federal Public Land Law
Credits: 3
- GIST 2200 - Spatial Data Visualization
Credits: 3
- GIST 2310 - Intro to Geographic Information Systems
Credits: 4
- LIFE 1010 - General Biology
Credits: 4
- LIFE 2023 - Biology of Plants and Fungi
Credits: 4

- LIFE 3400 - General Ecology Credits: 3
- MATH 2200 - Calculus I Credits: 4
- PLNT 1000 - Agroecology Credits: 4

(USP: PN)

- PLNT 4070 - Weed Science and Technology Credits: 4
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 2400 - Range Ecosystems and Plants Credits: 4
- REWM 3100 - Principles of Wildland Water Quality Credits: 3

OR

- ENR 3100 - Principles of Wildland

Water Quality Credits: 3

- REWM 4200 - Reclamation of Drastically Disturbed Lands Credits: 3
- REWM 4580 - Rangeland Restoration Ecology Credits: 3
- REWM 4700 - Wildland Watershed Management Credits: 3

OR

- REWM 4710 - Watershed Water Quality Management Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM2 Electiv

e, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 - Economics of the Environment Credits: 3
- ENGL 2005 - Writing in Technology and the Sciences Credits: 3
- ENR 2000 - Environment and Society Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene Credits: 4
- ENR 3300 - Environmental

Policy, Conservation and Development in India Credits: 3

- ERS 3000 - Energy Project Outreach and Communications Credits: 3 **(Recommended)**
- GEOL 2220 - Communicating Earth Science Credits: 3
- HP 2020 - Honors Colloquium II Credits: 3

COM3 Elective, Pick ONE

- AGEC 4965 - Agribusiness Entrepreneurship Credits: 3
- AGRI 4600 - Developing Organizational Leadershi

p Credits: 3

- COJO 3010 - Business and Professional Communication Credits: 3
- ENGL 3020 - Culture, Communication, Work Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- ENGL 4030 - Writing for Magazines Credits: 3
- ENGL 4040 - Rhetoric, Media, and Culture Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

Conc

urrentENRmajorsmusttakeENR4900

- ESS 4950 - Exploring the Earth System Credits: 3
- POLS 4840 - Seminar in Public Law Credits: 3
- REWM 4900 - Rangeland Management Planning Credits: 3
- ZOO 4100 - Scientific Communi

cation
Credits: 2

Chemistry Elective, Pick ONE (USP: PN for all listed)

- CHEM 1000 - Introductory Chemistry Credits: 4
- CHEM 1020 - General Chemistry I Credits: 4
- CHEM 1050 - Advanced General Chemistry I Credits: 4

Data Analysis Elective, Pick ONE

- ENR 4500 - Risk Analysis Credits: 4

- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ES 1060 - Introduction to Engineering Problem Solving Credits: 3
- GEOL 2120 - Quantitative GeoMethods Credits: 3
- GEOL 4250 - Mathematical Geosciences Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3 **(Recommended)**

- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Economics Elective, Pick ONE

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resource

s Credits: 3

- AGEC 4720 - Water Resource Economics Credits: 3
- ECON 4420 - Seminar: Economics for ENR Credits: 2-4
- ERS 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

OR

- ECON 3400 - Energy Markets & Policy Credits: 3

General Electives, must take 11 credits, 6 credits must be upper

division

- CHE 2005 - Chemical Process Analysis Credits: 3
- CHE 4050 - Unit Operations Laboratory II Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3

OR

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- ECON 4430 - Energy Economics Credits: 3
- EDSE 3040 - Energy

and Power Technology Credits: 3

- ENR 1200 - Environment Credits: 4
- ENR 2300 - Foundations of Sustainability Credits: 3
- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3
- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 -

Solar Energy Conversion Credits: 3

- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestra

tion
Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- ERS 4482 - Global Climate Governance Credits: 3
- ERS 4502 - Energy Finance Credits: 3
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3
- ERS 4990 - Topics in Energy Resource Developm

ent and Management Credits: 1-6

- ERS 4965 - Undergraduate Research Credits: 1-3
- ESE 4460 - Solar and Geothermal Engineering Credits: 3

OR

- ME 4460 - Solar and Geothermal Engineering Credits: 3
- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3

OR

- ME 4470 - Wind and Ocean Energy Engineering Credits: 3
- GEOG 4470 - Fire Ecology Credits: 3

OR

- GEOL 4470 - Fire Ecology Credits: 3
- GEOG 4550 - Geography of Wine Credits: 3
- GEOG 4880 - Current Topics Credits: 1-6
- GEOG 4885 - Seminar: (TOPICS) Credits: 1-3
- GEOL 1001 - Earth Science and Society Credits: 1
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

OR

- ASTR 1070 - The Earth: Its Physical Environment Credits: 4
- GEOL 1320 - Global Sustainability:

Managing Earth's Resources Credits: 4

- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

OR

- ENR 1330 - Water, Dirt, and Earth's Environment Credits: 4
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

OR

- ESS 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 3250 - Geosciences and Computers Credits: 4

- GEOL 3500 - Global Change: A Geological Perspective Credits: 4
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOL 4010 - Exploration Geoscience Credits: 3

OR

- ERS 4010 - Exploration Geoscience Credits: 3
- GEOL 4060 - Rocky Mountain

Field Trip
Credits: 1

- GEOL 4190 - Petroleum Geology
Credits: 3
- GEOL 4191 - Methods in Petroleum Geology
Credits: 3
- GIST 1001 - GIST Orientation and Portfolio
Credits: 1
- GIST 1200 - Geospatial Foundations
Credits: 3
- GIST 2110 - Techniques in Cartography
Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications
Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and

Technology Credits: 3

- GIST 3140 - Introduction to Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Informatio

n Science and Technology Credits: 1-6

- GIST 4870 - Internship in Geospatial Information Science and Technology Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology Credits: 1-6
- HIST 4535 - History of Oil Credits: 3
- LIFE 1002 - Discovering Science Credits: 3
- LIFE 1003 - Current Issues in Biology Credits: 4
- LIFE 1020 - Life

Science Credits: 4

- LIFE 1101 - Introduction to Ecological Research Credits: 3
- LIFE 2100 - Intro Research and Analysis Credits: 4
- LIFE 3410 - Introduction to Field Ecology Credits: 2
- LS 2010 - Engineering Surveying Lecture Credits: 2
- LS 2015 - Engineering Surveying Laboratory Credits: 1
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2410 - GIS in

Surveying Credits: 3

- LS 3120 - Boundary Principles Credits: 2
- LS 3130 - Public Land Surveys Credits: 3
- LS 3200 - Route Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3

- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- MGT 4370 - Employment Law Credits: 3
- MGT 4430 - Organization Design and Change Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- MGT 4900 - Independent Study in Management Credits: 1-4
- MGT 4910 - Topics in Management Credits: 3
- MKT 2100 - Introducti

on to Marketing Credits: 3

- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- PETE 4860 - Energy, Environment, and Materials Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3
- PLNT 1150 - Pesticide Safety and Application Credits: 1

OR

- ENTO 1150 - Pesticide Safety and Application Credits: 1
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- POLS 4385 - Environm

ent and Resource Conflict Credits: 3

OR

- INST 4385 - Environment and Resource Conflict Credits: 3
- POLS 4455 - Energy Security Credits: 3

OR

- INST 4455 - Energy Security Credits: 3
- POLS 4555 - Political Ecology Credits: 3

OR

- INST 4555 - Political Ecology Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MICR 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3
- SOWK 4780 - Seminar: Credits: 1-9
- UWYO 1019 - UWYO Saddle Up Credits: 1

Negotiation Elective, Pick ONE

- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

Technical Elective, Pick ONE

- ENR 3000 - Approaches to ENR Problem Solving Credits: 3
- ENR 3050 - Cultures of Nature in the United States Credits: 3

OR

- AMST 3050 - Cultures of Nature in the United States Credits: 3

OR

- GWST 3050 - Cultures of Nature in the United States Credits: 3
- ENR 3130 - Environmental Quality Credits: 3

OR

- SOIL 3130 - Environmental Quality Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

OR

- GEOG 3450 - Weather and Climate Credits: 3

OR

- GEOL 3450 - Weather and Climate Credits: 3

- ENR 3620 - Environmental Justice Credits: 3

OR

- POLS 3620 - Environmental Justice Credits: 3
- ENR 3700 - Wyoming Conservation Corps Practicum Credits: 1
- ENR 3900 - Seminar in Environment and Natural Resources Credits: 1-3
- ENR 3950 - Environmental Sociology Credits: 3

OR

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1

- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1
- ENR 4030 - Ecology of Knowledge Credits: 3

OR

- AMST 4030 - Ecology of Knowledge Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4051 -

Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- POLS 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- ENR 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 -

Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- ENR 4240 - Disease Ecology Credits: 3

OR

- PATB 4240 - Disease Ecology Credits: 3
- ENR 4285 - Wildland Hydrology Credits: 3

OR

- REWM 4285 - Wildland Hydrology Credits: 4
- ENR 4310 - Environmental Anthropology Credits: 3

OR

- ANTH 4310 - Environmental Anthropology Credits: 3
- ENR 4412 - Global Environment History Credits: 3

OR

- HIST 4412 - Global Environment History Credits: 3
- ENR 4420 - Conservation Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ENR 4430 - Green Chemistry and Global Environmental

Problems
Credits: 3

OR

- CE 4430 - Green Chemistry and Global Environmental Problems
Credits: 3

OR

- CHE 4430 - Green Chemistry and Global Environmental Problems
Credits: 3
- ENR 4560 - Conservation Entrepreneurship
Credits: 3
- ENR 4600 - Campus Sustainability
Credits: 3
- ENR 4700 - Media, Science, and Society
Credits: 3

OR

- COJO 4700 - Media, Science, and

Society
Credits: 3

- ENR 4800 - Historic Preservation
Credits: 3

OR

- AMST 4800 - Historic Preservation
Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- ENR 4950 - Leadership in Natural Resources Management
Credits: 2
- ENR 4960 - Field Studies in:
Credits: 1-6
- ENR 4970 - ENR Internship
Credits: 1-6
- ENR 4975 - Independent Study
Credits: 1-6

- GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes Credits: 3
- GEOG 3030 - Geography and Development Credits: 3
- GEOG 3050 - Economic Geography Credits: 3
- GEOG 3400 - Traditional Ecological Knowledge Credits: 3

OR

- NAIS 3400 - Traditional Ecological Knowledge Credits: 3
- GEOG 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3

- GEOG 4000 - Terrain Analysis Credits: 3
- GEOG 4013 - Political Geography Credits: 3

OR

- INST 4013 - Political Geography Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4113 - Geological Remote Sensing Credits: 4

OR

- GEOL 4113 - Geological Remote Sensing Credits: 4
- REWM 3000 - Plant Ecophysiology/Plant Form and Function Credits: 4
- REWM 3390 - Range Judging Credits: 2

- REWM 3500 - Rangeland Plant Ecophysiology Credits: 3
- REWM 4000 - Poisonous Plants and Plant Toxins Credits: 3
- REWM 4100 - Nutritional Ecological Management of Range Herbivores Credits: 3
- REWM 4103 - Range and Ranch Recreation Credits: 3
- REWM 4150 - Behavior Modification for Production of Grazing Herbivores Credits: 3
- REWM 4300 - Grass Taxonomy Credits: 3
- REWM 4330 - Rangeland Ecosyste

m Assessment and Monitoring Credits: 4

- REWM 4340 - Reclamation Techniques Field Trip Credits: 2
- REWM 4440 - Applied Fire Ecology Credits: 3
- REWM 4500 - Rainfall-Runoff Modeling Credits: 3
- REWM 4530 - Seminar Credits: 1
- REWM 4540 - Problems Credits: 1-4
- REWM 4550 - Internship in: Credits: 1
- REWM 4600 - Drone-Based Remote Sensing Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3

- REWM 4810 - Experiments in Restoration Credits: 2
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- RNEW 4990 - Topics in: Credits: 1-4
- RNEW 3000 - Tropical Ecology Credits: 3
- RNEW 4130 - Applied Remote Sensing Credits: 3

OR

- GIST 4130 - Applied Remote Sensing Credits: 3

OR

- PLNT 4130 - Applied Remote Sensing Credits: 3
- RNEW 4400 - Invasive Plant Ecology Credits: 3

OR

- PLNT 4400 - Invasive Plant Ecology Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4
- RNEW 4800 - Undergraduate Research Credits: 1-3
- SOIL 3000 - Irrigated Agriculture Credits: 3

OR

- PLNT 3000 - Irrigated Agriculture Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2

- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4130 - Chemistry of the Soil Environment Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

OR

- MICR 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3

Energy Resource Management and Devel

opment, Professional Land Management Concentration, B.S.

Professional Land Management majors determine ownership and title of surface and subsurface rights to negotiate leases with land/mineral owners, coordinate field exploration, and ensure compliance with governmental regulations.

University

Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communi

cation 3 Credits: 3

- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Professional Land

Management (PLM) Core Curriculum

Students must earn a letter grade of C or better in each

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- ACCT 2010 - Principles of Accounting I Credits: 3
- ACCT 2020 - Principles

of Accounting II Credits: 3

- AGEC 1020 - Principles of Microeconomics Credits: 3 **(USP: H)**

OR

- ECON 1020 - Principles of Microeconomics Credits: 3
- DSCI 4260 - Project Management Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3 **(USP: H)**
- ENGL 1010 - College Composition and Rhetoric Credits: 3
- ENR 1000 - Energy and Society Credits: 3 **(USP:PN)**
- ENR 4750 - ENR Law and Policy Credits: 3

- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4010 - Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3

- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4482 - Global Climate Governance Credits: 3

OR

- ERS 4502 - Energy Finance Credits: 3
- ERS 4985 - Seminar Credits: 1-3
- FIN 2100 - Principles of Finance Credits: 3
- GEOL 1100 - Physical Geology Credits: 4
- GIST 2200 - Spatial Data Visualization Credits: 3
- GIST 2310 - Intro to Geographic Information Systems Credits: 4

- MATH 1405 - Trigonometry Credits: 3

OR

- MATH 1450 - Algebra and Trigonometry Credits: 5
- MATH 2200 - Calculus I Credits: 4

OR

- MATH 2350 - Business Calculus Credits: 4
- MGT 2010 - Legal Environment of Business Credits: 3
- STAT 2050 - Fundamentals of Statistics Credits: 4

COM2 Elective, Pick ONE

- COMM 2010 - Public Speaking Credits: 3
- ECON 2400 -

Economics of the Environment
Credits: 3

- ENGL 2005 - Writing in Technology and the Sciences
Credits: 3
- ENR 2000 - Environment and Society
Credits: 3
- ENR 2450 - Fish and Wildlife Management in the Anthropocene
Credits: 4

OR

- ZOO 2450 - Fish and Wildlife Management in the Anthropocene
Credits: 4
- ENR 3300 - Environmental Policy, Conservation and Development in India
Credits: 3
- ERS 3000 - Energy Project

Outreach and Communications Credits: 3 **(Recommended)**

- GEOL 2220 - Communicating Earth Science Credits: 3
- HP 2020 - Honors Colloquium II Credits: 3

Data Analysis Elective, Pick ONE

- ENR 4500 - Risk Analysis Credits: 4
- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- GEOL 4525 - Environmental Data Analysis Credits: 4
- ES 1060 - Introduction to

Engineering Problem Solving Credits: 3

- GEOL 2120 - Quantitative GeoMethods Credits: 3
- GEOL 4250 - Mathematical Geosciences Credits: 3
- GIST 4211 - Advanced Remote Sensing Credits: 3
- IMGT 2400 - Introduction to Information Management Credits: 3 **(Recommended)**
- STAT 3050 - Statistical Methods Credits: 3
- ZOO 4400 - Population Ecology Credits: 3

Economics Electiv

e, Pick ONE

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- ECON 4420 - Seminar: Economics for ENR Credits: 2-4

- ERS 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

OR

- ECON 3400 - Energy Markets & Policy Credits: 3 **(Recommended)**

General Elective, 25 credits in total, 9 credits must be upper division

- BOT 4775 - Forest Ecology Credits: 4

OR

- RNEW 4775 - Forest Ecology Credits: 4
- CHE 2005 - Chemical

Process Analysis Credits: 3

- CHEM 4050 - Solar Energy Conversion Credits: 3

OR

- ERS 4050 - Solar Energy Conversion Credits: 3
- CRMJ 4990 - Special Topics Credits: 3
- DSCI 2100 - Introduction to Operations and Supply Chain Management Credits: 3
- ECON 1010 - Principles of Macroeconomics Credits: 3

OR

- AGEC 1010 - Principles of Macroeconomics Credits: 3
- ECON 4430 - Energy

Economics Credits: 3

- EDSE 3040 - Energy and Power Technology Credits: 3
- ENR 1200 - Environment Credits: 4
- ENR 2300 - Foundations of Sustainability Credits: 3
- ENR 3450 - Weather and Climate Credits: 3

OR

- GEOG 3450 - Weather and Climate Credits: 3

OR

- GEOL 3450 - Weather and Climate Credits: 3
- ENR 3700 - Wyoming Conservation Corps Practicum Credits: 1
- ENR 3900 -

Seminar in Environment and Natural Resources Credits: 1-3

- ENR 3950 - Environmental Sociology Credits: 3

OR

- SOC 3950 - Environmental Sociology Credits: 3
- ENR 4010 - Winter Ecology: Skills of the Winter Naturalist Credits: 1
- ENR 4011 - Winter Ecology: Snowpack Science and Dynamics Credits: 1
- ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations Credits: 1
- ENR 4040 - Conservation of Natural Resource

s Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- POLS 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- ENR 4420 - Conservation

Biology Credits: 3

OR

- BOT 4420 - Conservation Biology Credits: 3

OR

- ZOO 4420 - Conservation Biology Credits: 3
- ENR 4560 - Conservation Entrepreneurship Credits: 3
- ENR 4600 - Campus Sustainability Credits: 3
- ENR 4890 - Topics in Environment and Natural Resources Credits: 1-6
- ENR 4900 - Capstone in ENR Credits: 3
- ENR 4950 - Leadership in Natural Resources Managem

ent
Credits: 2

- ENR 4960 - Field Studies in:
Credits: 1-6
- ENR 4970 - ENR Internship
Credits: 1-6
- ERS 1310 - The Water-Energy-Climate Nexus
Credits: 3

OR

- GEOL 1310 - The Water-Energy-Climate Nexus
Credits: 3
- ERS 3010 - Air Quality Management
Credits: 3
- ESE 4460 - Solar and Geothermal Engineering
Credits: 3

OR

- ME 4460 - Solar and Geothermal

Engineering
Credits: 3

- ESE 4470 - Wind and Ocean Energy Engineering
Credits: 3

OR

- ME 4470 - Wind and Ocean Energy Engineering
Credits: 3
- ERS 4480 - Carbon Capture and Storage
Credits: 3

OR

- CE 4480 - Carbon Capture and Storage
Credits: 3
- ERS 4481 - Geological Carbon Sequestration
Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration
Credits:

- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6
- FIN 3310 - Investment Management Credits: 3
- FIN 3520 - Financial Markets Credits: 3
- GEOG 3050 - Economic Geograph

y Credits: 3

- GEOG 3480 - Environmental Change Credits: 3

OR

- ESS 3480 - Environmental Change Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- GEOG 4080 - Management of Major River Basins Credits: 3
- GEOG 4113 - Geological Remote Sensing Credits: 4

OR

- GEOL 4113 - Geological Remote Sensing Credits: 4
- GEOG 4470 - Fire Ecology Credits: 3

OR

- GEOL 4470 -

Fire Ecology Credits: 3

- GEOG 4880 - Current Topics Credits: 1-6
- GEOG 4885 - Seminar: (TOPICS) Credits: 1-3
- GEOL 1001 - Earth Science and Society Credits: 1
- GEOL 1070 - The Earth: Its Physical Environment Credits: 4

OR

- ASTR 1070 - The Earth: Its Physical Environment Credits: 4
- GEOL 1330 - Water, Dirt, and Earth's Environment Credits: 4

OR

- ENR 1330 - Water, Dirt, and

Earth's Environment Credits: 4

- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- GEOL 2000 - Geochemical Cycles and the Earth System Credits: 4

OR

- ESS 2000 - Geochemical Cycles and the Earth System Credits: 4
- GEOL 2080 - General Field Geology Credits: 3
- GEOL 3250 - Geosciences and Computers Credits: 4
- GEOL 3500 - Global Change: A Geological Perspecti

ve
Credits: 4

- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOL 4060 - Rocky Mountain Field Trip Credits: 1
- GEOL 4190 - Petroleum Geology Credits: 3
- GEOL 4191 - Methods in Petroleum Geology Credits: 3
- GIST 1001 - GIST Orientation and Portfolio Credits: 1
- GIST 1200 - Geospatial

Foundations
Credits: 3

- GIST 2110 - Techniques in Cartography
Credits: 3
- GIST 2140 - Survey of Remote Sensing Applications
Credits: 3
- GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology
Credits: 3
- GIST 3140 - Introduction to Remote Sensing
Credits: 3
- GIST 4130 - Applied Remote Sensing
Credits: 3

OR

- PLNT 4130 - Applied Remote Sensing
Credits: 3

OR

- RNEW 4130 - Applied Remote Sensing Credits: 3
- GIST 4410 - UAS Sensors and Platforms Credits: 1
- GIST 4420 - UAS Mission Planning Credits: 1
- GIST 4430 - UAS Regulations and Safety Credits: 1
- GIST 4440 - UAS Ground School and Operations Credits: 2
- GIST 4450 - UAS Data Acquisition and Processing Credits: 3
- GIST 4790 - Special Topics in Geospatial Information Science and

Technology
Credits: 1-6

- GIST 4870 - Internship in Geospatial Information Science and Technology
Credits: 1-12
- GIST 4950 - Undergraduate Research in Geospatial Information Science and Technology
Credits: 1-6
- HIST 4535 - History of Oil
Credits: 3
- LIFE 3400 - General Ecology
Credits: 3
- LIFE 3410 - Introduction to Field Ecology
Credits: 2
- LS 2010 - Engineering Surveying

Lecture Credits: 2

- LS 2015 - Engineering Surveying Laboratory Credits: 1
- LS 2020 - GPS for Land Surveyors Credits: 4
- LS 2100 - Records Research for Surveyors Credits: 3
- LS 2410 - GIS in Surveying Credits: 3
- LS 3210 - Advanced Surveying Credits: 4
- MGT 2030 - Principle-Based Ethics Credits: 3
- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadershi

p Credits: 3

- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Development Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4350 - Commercial Law Credits: 3
- MGT 4360 - Business Law for Entrepreneurs Credits: 3
- MGT 4370 - Employment Law Credits: 3
- MGT 4430 - Organization Design and Change Credits: 3
- MGT 4800 - Business Strategy and Policy Credits: 3
- MGT 4900 -

Independent Study in Management Credits: 1-4

- MGT 4910 - Topics in Management Credits: 3
- MKT 2100 - Introduction to Marketing Credits: 3
- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 4100 - Tribal Government Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- PETE 4860 - Energy, Environment, and Materials Credits: 3
- PHIL 2420 - Critical Thinking Credits: 3

- PLNT 1000 - Agroecology Credits: 4
- PLNT 1150 - Pesticide Safety and Application Credits: 1

OR

- ENTO 1150 - Pesticide Safety and Application Credits: 1
- PLNT 3030 - Ecological Web: Ecology of Plant Protection Credits: 3
- PLNT 4070 - Weed Science and Technology Credits: 4
- POLS 3620 - Environmental Justice Credits: 3

OR

- ENR 3620 - Environmental Justice Credits: 3

- POLS 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- POLS 4385 - Environment and Resource Conflict Credits: 3

OR

- INST 4385 - Environment and Resource Conflict Credits: 3

- POLS 4455 - Energy Security Credits: 3

OR

- INST 4455 - Energy Security Credits: 3
- POLS 4555 - Political Ecology Credits: 3

OR

- INST 4555 - Political Ecology Credits: 3
- REWM 2000 - Principles of Rangeland Management Credits: 3
- REWM 3100 - Principles of Wildland Water Quality Credits: 3

OR

- ENR 3100 - Principles of Wildland Water Quality Credits: 3
- REWM 4200 - Reclamati

on of Drastically Disturbed Lands Credits: 3

- REWM 4285 - Wildland Hydrology Credits: 4

OR

- ENR 4285 - Wildland Hydrology Credits: 3
- REWM 4330 - Rangeland Ecosystem Assessment and Monitoring Credits: 4
- REWM 4340 - Reclamation Techniques Field Trip Credits: 2
- REWM 4440 - Applied Fire Ecology Credits: 3
- REWM 4500 - Rainfall-Runoff Modeling Credits: 3
- REWM 4530 - Seminar Credits: 1
- REWM 4580 -

Rangeland Restoration Ecology Credits: 3

- REWM 4600 - Drone-Based Remote Sensing Credits: 3
- REWM 4700 - Wildland Watershed Management Credits: 3
- REWM 4710 - Watershed Water Quality Management Credits: 3
- REWM 4750 - Wildlife Habitat Restoration Ecology Credits: 3
- REWM 4810 - Experiments in Restoration Credits: 2
- REWM 4830 - Ecological Applications for Wildland Management Credits: 3
- REWM 4850 - Rangelan

d Vegetation Management Techniques Credits: 3

- REWM 4900 - Rangeland Management Planning Credits: 3
- SOC 1000 - Sociological Principles Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4
- SOIL 3130 - Environmental Quality Credits: 3

OR

- ENR 3130 - Environmental Quality Credits: 3
- SOIL 4100 - Soil Physics Credits: 3
- SOIL 4105 - Soil Physics Laboratory Credits: 2

- SOIL 4120 - Genesis, Morphology and Classification of Soils Credits: 4
- SOIL 4130 - Chemistry of the Soil Environment Credits: 3
- SOIL 4140 - Soil Microbiology Credits: 4

OR

- MICR 4140 - Soil Microbiology Credits: 4
- SOIL 4150 - Forest and Range Soils Credits: 3
- SOIL 4160 - Soil Health and Nutrient Cycling Credits: 3
- SOIL 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MICR 4540 - Microbial Diversity and Ecology Credits: 4

OR

- MOLB 4540 - Microbial Diversity and Ecology Credits: 4
- SOC 4890 - Special Topics in Credits: 1-3
- SOIL 4565 - Research: Soil Science Credits: 1-4
- SOWK 4780 - Seminar: Credits: 1-9
- UWYO 1019 - UWYO Saddle Up Credits: 1

Negotiation Elective, Pick ONE

- AGEC 4450 - Negotiatio

n Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

Minor

Energy Resource Management Minor

ERM Minor

The purpose of the ERM minor is to provide students at UW the opportunity to learn about energy and expand their career opportunities with this credential.

Core Courses- 6 credit hours needed

- ERS 1000 - Energy and Society Credits: 3

OR

- ENR 1000 - Energy and

Society Credits: 3

- ERS 3400 - Energy Markets & Policy Credits: 3

OR

- ECON 3400 - Energy Markets & Policy Credits: 3

Elective Courses- 6 credit hours needed

- AGEC 3750 - Natural Resource Planning and Economics Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4450 - Negotiatio

n Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- POLS 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3
- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate Credits: 3
- BKCH 3021 - Fundamentals of Blockchain Credits: 3
- CE 3400 - Introduction to Environmental Engineering Credits: 3
- CE 4430 - Green Chemistry and Global Environmental Problems Credits: 3

OR

- CHE 4430 - Green Chemistry and

Global Environmental Problems Credits: 3

OR

- ENR 4430 - Green Chemistry and Global Environmental Problems Credits: 3
- ECON 1300 - Oil: Business, Culture, and Power Credits: 3

OR

- ERS 1300 - Oil: Business, Culture, and Power Credits: 3
- EDSE 3040 - Energy and Power Technology Credits: 3
- EE 2220 - Circuits and Signals Credits: 4
- EE 3510 - Electric Machines and Power

Systems
Credits: 4

- EE 4510 - Power Systems
Credits: 3
- ENR 4750 - ENR Law and Policy
Credits: 3
- ERS 2010 - Introduction to Land Management
Credits: 3
- ERS 3000 - Energy Project Outreach and Communications
Credits: 3
- ERS 3010 - Air Quality Management
Credits: 3
- ERS 4100 - Property I
Credits: 3
- ERS 4105 - Property II
Credits: 3
- ERS 4110 - Common Law and Contracts
Credits: 3
- ERS 4120 - Federal Public

Land Law Credits: 3

- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestra

tion
Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration
Credits:
- ERS 4482 - Global Climate Governance
Credits: 3
- ERS 4502 - Energy Finance
Credits: 3
- ERS 4965 - Undergraduate Research
Credits: 1-3
- ERS 4990 - Topics in Energy Resource Development and Management
Credits: 1-6
- ERS 4960 - Energy Field Studies
Credits: 1-3
- ERS 4970 - Internship
Credits: 1-4

- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3
- ESE 4060 - Energy Systems Design I Credits: 3
- ESE 4474 - Topics in Energy Systems Engineering Credits: 1-3
- GEOG 3480 - Environmental Change Credits: 3

OR

- ESS 3480 - Environmental Change Credits: 3

OR

- GEOL 3480 - Environmental Change Credits: 3
- GEOL 1320 - Global Sustainab

ility: Managing Earth's Resources Credits: 4

- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- GEOL 4001 - Modeling the Earth System Credits: 4
- GEOL 4010 - Exploration Geoscience Credits: 3

OR

- ERS 4010 - Exploration Geoscience Credits: 3
- GEOL 4190 - Petroleum Geology Credits: 3

OR

- GEOL 5190 - Petroleum Geology Credits: 3
- GEOL 4020 - Global Biogeochemistry Credits: 3
- GEOL 4210 - Topics in Geophysics Credits: 1-3
- GEOL 4525 - Environmental Data Analysis Credits: 4

OR

- ENR 4525 - Environmental Data Analysis Credits: 4

OR

- ENR 5525 - Environmental Data

Analysis
Credits: 4

- GEOL 4720 - Ore Deposits
Credits: 4

OR

- GEOL 5720 - Ore Deposits
Credits: 4
- GIST 2200 - Spatial Data Visualization
Credits: 3
- GIST 2310 - Intro to Geographic Information Systems
Credits: 4
- HIST 4535 - History of Oil
Credits: 3
- INST 4455 - Energy Security
Credits: 3

OR

- POLS 4455 - Energy Security
Credits: 3
- ME 3400 - Heating, Ventilating and Air Conditioning of

Buildings
Credits: 3

OR

- ARE 3400 - Heating, Ventilating and Air Conditioning of Buildings
Credits: 3
- ME 3450 - Properties of Materials
Credits: 3
- ME 3975 - Internship
Credits: 3
- ME 4340 - Gas Turbine Engines
Credits: 3
- ME 4430 - HVAC Systems Analysis and Design
Credits: 3

OR

- ARE 4430 - HVAC Systems Analysis and Design
Credits: 3
- ME 4455 - Combustion Engineering
Credits: 3

OR

- ESE 4455 - Combustion Engineering Credits: 3
- ME 4460 - Solar and Geothermal Engineering Credits: 3

OR

- ESE 4460 - Solar and Geothermal Engineering Credits: 3
- ME 4470 - Wind and Ocean Energy Engineering Credits: 3

OR

- ESE 4470 - Wind and Ocean Energy Engineering Credits: 3
- MGT 4470 - Negotiations and Conflict Resolution Credits: 3

- NAIS 3300 - Federal Indian Law Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- NAIS 4100 - Tribal Government Credits: 3
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- PETE 4860 - Energy, Environment, and Materials Credits: 3
- PHYS 2250 - Themodynamic Systems in Energy Science Credits: 4
- POLS 4350 - Sustainable Development and Global Policy Credits: 3

- POLS 4051 - Environmental Politics Credits: 3

OR

- AMST 4051 - Environmental Politics Credits: 3

OR

- ENR 4051 - Environmental Politics Credits: 3

OR

- GEOG 4051 - Environmental Politics Credits: 3

OR

- REWM 4051 - Environmental Politics Credits: 3
- RNEW 4775 - Forest Ecology Credits: 4

OR

- BOT 4775 - Forest Ecology Credits: 4
- SOC 3950 - Environmental

Sociology
Credits: 3

OR

- ENR 3950 - Environmental Sociology Credits: 3
- SOIL 4100 - Soil Physics Credits: 3

Certificate

Carbon Capture Utilization and Storage (CCUS) Undergraduate Certificate

Covering technology, economics

and policy, and communication, this certificate is designed for a broad, multidisciplinary audience with an interest in energy, sustainability and climate change mitigation.

Undergraduate CCUS Certificate - 21 credit hours

Carbon capture utilization and storage (CCUS) has experienced growing interest over the past two decades, due to the desire to reduce CO_2 emissions and the ability of CCUS to reduce

emissions at large scales. This certificate covers CCUS technologies, economics, communication and outreach and policy of CCUS. CCUS is an important component of climate change mitigation as the technology allows for the continued consumption of affordable, abundant and secure fossil fuels in a carbon-constrained world. In addition, CCUS allows for industrial processes with CO_2 as a byproduct (e.g., cement production, biofuels production, etc.) to mitigate their emissions. Ultimately,

CCUS prevents CO_2 (carbon dioxide) emissions from entering the atmosphere by capturing and storing them permanently and safely underground. The courses in this certificate are taught by a team of leading academics at the University of Wyoming with decades of experience in this field. This certificate program aims to bridge the gap between the forefront of the latest developments in science, engineering, geology, policy and economics and the wider public.

CCUS Undergraduate Certificate Core Curriculum

Required Core Courses - 15 Credit hours (Based on 4 broad topics)

- ERS 3000 - Energy Project Outreach and Communications Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 5480 - Carbon

Capture and Storage Credits:

- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:

OR

- CHE 5481 - Geological Carbon Sequestration Credits:
- ERS 4482 - Global Climate Governance Credits: 3
- ERS 4502 - Energy Finance Credits: 3

Elective Courses - Minimum 6 credit

hours from any of the disciplines/courses below

Energy Economics

- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4890 - Special Topics in _____ Credits: 1-3
- ECON 3400 - Energy Markets & Policy Credits: 3

OR

- ERS 3400 - Energy Markets & Policy Credits: 3
- ERS 1300 - Oil: Business, Culture, and

Power
Credits: 3

OR

- ECON 1300 - Oil: Business, Culture, and Power
Credits: 3

Energy & Environment

- ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate
Credits: 3
- BOT 4745 - Terrestrial Ecosystem Ecology
Credits: 3
- ENR 2030 - History and Environmental Science
Credits: 3

OR

- HIST 2030 - History

and Environmental Science Credits: 3

- ENR 4500 - Risk Analysis Credits: 4
- ERS 1000 - Energy and Society Credits: 3

OR

- ENR 1000 - Energy and Society Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in

Energy Credits: 2-4

- ERS 4985 - Seminar Credits: 1-3

Energy Law and Land Management

- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4100 - Property I Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurfac

e Property Credits: 3

- ERS 4135 - Advanced Energy Law Credits: 3
- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6

Energy Policy

- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3
- NAIS 4340 - Natural Resource Management on

Western Reservations Credits: 3

- POLS 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land Politics Credits: 3

Energy Science & Engineering

- ERS 4010 -

Exploration Geoscience Credits: 3

OR

- GEOL 4010 - Exploration Geoscience Credits: 3
- ERS 4050 - Solar Energy Conversion Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4
- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- ERS 1310 - The Water-

Energy-Climate Nexus Credits: 3

- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- PETE 2050 - Fundamentals of Petroleum Engineering Credits: 3
- SOIL 2010 - Introduction to Soil Science Credits: 4

Land Administration Undergraduate Certificate

Land management is the process of overseeing the use, allocation of natural spaces/resources for public or private projects, and/or conservation. This certificate allows those interested in energy, agriculture, natural resources, etc., an avenue to learn more.

Land Administration

To solve today's complex land management issues, professionals need a broad understanding of key elements affecting environments and the relationships between land, agriculture,

energy and people. This Land Administration Certificate prepares students with the tools, methods, theories, and action steps that help identify land administration problems and the means to develop, implement, and evaluate proposed solutions. Certificate holders will be able to critically explore root cause analysis and recommend desired outcomes. Solving natural resource and land challenges requires a multi-disciplinary approach, which this certificate offers in a collaboration between School of

Energy Resources, College of Agriculture, Life Sciences and Natural Resources, and Haub School of Environment and Natural Resources. Students become a knowledgeable leader in land management as it relates to energy, agriculture and natural resources with this certificate program. The curriculum offers both a philosophical and functional view that is applicable to a wide range of careers.

Certificate - 16 credit hours

Core Courses - 9-10 credit hours

- ERS 2010 - Introduction to Land Management Credits: 3
- ERS 4100 - Property I Credits: 3

Select ONE of the following (ENR 1200, AGEC 3400, ENR/AGEC 3750)

- AGEC 3400 - Agricultural Law Credits: 3
- AGEC 3750 - Natural Resource Planning and Economic

s Credits: 3

OR

- ENR 3750 - Natural Resource Planning and Economics Credits: 3
- ENR 1200 - Environment Credits: 4

Elective Courses - Minimum 6 credit hours from 34 identified courses at UW.

Energy Economics

- AGEC 3420 - Applied Equity Investing Credits: 3

- AGEC 4450 - Negotiation Credits: 3

OR

- ENR 4450 - Negotiation Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- AGEC 4550 - Negotiation Analysis Credits: 3

OR

- ENR 4550 - Negotiation Analysis Credits: 3
- AGEC 4600 - Community Economic Analysis Credits: 3
- AGEC 4700 - Economics of Range Resources Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- AGEC 4890 -

Special Topics in _____ Credits: 1-3

- ECON 1300 - Oil: Business, Culture, and Power Credits: 3

OR

- ERS 1300 - Oil: Business, Culture, and Power Credits: 3
- ECON 3400 - Energy Markets & Policy Credits: 3

OR

- ERS 3400 - Energy Markets & Policy Credits: 3
- ERS 3000 - Energy Project Outreach and Communications Credits: 3
- ERS 4502 - Energy Finance Credits: 3
- MGT 4470 - Negotiations and Conflict

Resolution Credits: 3

Energy & Environment

- ENR 2030 - History and Environmental Science Credits: 3

OR

- HIST 2030 - History and Environmental Science Credits: 3
- ENR 2345 - Natural Resource Ethics Credits: 3

OR

- ENR 4500 - Risk Analysis Credits: 4
- ENR 4950 - Leadership in Natural Resources Management Credits: 2
- ERS 1000 -

Energy and Society Credits: 3

OR

- ENR 1000 - Energy and Society Credits: 3
- ERS 3010 - Air Quality Management Credits: 3
- ERS 4960 - Energy Field Studies Credits: 1-3
- ERS 4965 - Undergraduate Research Credits: 1-3
- ERS 4970 - Internship Credits: 1-4
- ERS 4975 - Global Experience in Energy Credits: 2-4
- ERS 4985 - Seminar Credits: 1-3
- SOC 3950 - Environmental

Sociology
Credits: 3

OR

- ENR 3950 - Environmental Sociology Credits: 3

Energy Law and Land Management

- ENR 4750 - ENR Law and Policy Credits: 3
- ERS 4105 - Property II Credits: 3
- ERS 4110 - Common Law and Contracts Credits: 3
- ERS 4120 - Federal Public Land Law Credits: 3
- ERS 4130 - Oil and Gas and the Law of Subsurface Property Credits: 3
- ERS 4135 - Advanced

Energy Law Credits: 3

- ERS 4990 - Topics in Energy Resource Development and Management Credits: 1-6

Energy Policy

- ENR 3300 - Environmental Policy, Conservation and Development in India Credits: 3
- ENR 4040 - Conservation of Natural Resources Credits: 3

OR

- GEOG 4040 - Conservation of Natural Resources Credits: 3
- ENR 4900 - Capstone in ENR Credits: 3

- ERS 4482 - Global Climate Governance Credits: 3
- NAIS 4340 - Natural Resource Management on Western Reservations Credits: 3
- POLS 4052 - Federal Land Politics Credits: 3

OR

- AMST 4052 - Federal Land Politics Credits: 3

OR

- ENR 4052 - Federal Land Politics Credits: 3

OR

- GEOG 4052 - Federal Land Politics Credits: 3

OR

- REWM 4052 - Federal Land

Politics
Credits: 3

Energy Science & Engineering

- ENR 4420 - Conservation Biology
Credits: 3

OR

- BOT 4420 - Conservation Biology
Credits: 3

OR

- ZOO 4420 - Conservation Biology
Credits: 3
- ERS 4010 - Exploration Geoscience
Credits: 3

OR

- GEOL 4010 - Exploration Geoscience
Credits: 3
- ERS 4050 - Solar Energy Conversio

n Credits: 3

OR

- CHEM 4050 - Solar Energy Conversion Credits: 3
- ERS 4480 - Carbon Capture and Storage Credits: 3

OR

- CE 4480 - Carbon Capture and Storage Credits: 3
- ERS 4481 - Geological Carbon Sequestration Credits: 3

OR

- CHE 4481 - Geological Carbon Sequestration Credits:
- GEOL 1320 - Global Sustainability: Managing Earth's Resources Credits: 4

- GEOL 1310 - The Water-Energy-Climate Nexus Credits: 3

OR

- ERS 1310 - The Water-Energy-Climate Nexus Credits: 3
- GEOL 3600 - Earth and Mineral Resources Credits: 4
- GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge Credits: 4
- REWM 3500 - Rangeland Plant Ecophysiology Credits: 3
- REWM 4850 - Rangeland Vegetation Management Techniques Credits: 3

- SOIL 2010 - Introduction to Soil Science Credits: 4

University Honors College

Guthrie House

Peter Parolin, Dean
Phone: (307) 766-4110
Web site: uwyo.edu/honors

The Honors College provides academically ambitious students with a series of curricular and co-curricular opportunities. Through these

opportunitiesstudentsgain thebreadth ofknowledgeneeded bycitizens,professionals, andfamilymembersto beeffective inalifetimeofstimulatingandenrichingpursuits.Honorsstudentslearn towritecogentlyfor avariety ofaudiencesin theiracademicdisciplinesandbeyond.They learnto locateand usereliableinformation andtrustworthyopinion.Throughappropriatecoursework, they learnhow tobecomeengagedcitizensand tounderstandthe ethnicandcultural diversity of

America and the world. They learn the purposes and values of the arts, humanities, sciences and social sciences. The Capstone Project is a sustained research or creative activity through which students demonstrate what they have learned: to formulate a project independently, to develop the intellectual and creative means to complete it, and to write and speak effectively about their work. The Capstone Project is frequently used as evidence of critical thinking in graduate and career applications.

Honors College Learning Outcomes

Students graduating from the Honors College will be able to: (1) engage in problemsolving, research, and creative pursuits that utilize an interdisciplinary approach (2) articulate the value of international and diversity-focused perspectives (3) develop their own styles of leadership and service and identify meaningful

opportunities for engagement in these areas and (4) create intentional pathways through career development, including utilizing internship opportunities.

Honors College Admissions

The Honors College seeks well-rounded, ambitious, and curious learners and leaders. Students are invited to apply to the college prior to their first year. First year applicants should apply to

the Honors College when submitting their general application to UW. The Honors College admissions committee considers academic performance and test scores holistically alongside an application essay and high school transcript.

Students admitted into the Honors College who are College of Engineering majors will automatically be accepted as Honors College Engineering students.

The Honors College reviews applications on a rolling basis. Students are

admitted to the Honors College only after they have been accepted to UW. Incoming, continuing, and transfer students who are interested in applying to Honors should consult our Admissions page: https://www.uwyo.edu/honors/applications/

The Honors College also welcomes application from new transfer students. Transfer students entering the Honors College typically have an overall college GPA of 3.25 or higher. The college also admits transfer students and current UW

students with at least three semesters remaining prior to graduation.

To maintain good standing in the college, a student must achieve a 3.0 GPA at the conclusion of the student's first year of study. A 3.25 GPA at the conclusion of the student's second year of study is required, with this standard remaining throughout their academic career. Interested high school seniors and transfer students are encouraged to come by the Honors College or to write to the Dean, The Honors College,

Dept. 3413, 1000 University Ave, Laramie, WY 82071. The email address is honors@uwyo.edu.

Scholarships

The Honors College supports UW in financial aid packages for students. In keeping with the vision of Honors to facilitate an international experience, Honors provides scholarships to assist with study abroad. Fellowships for supporting research or creative projects for the senior thesis may also be available.

Program Requirements

To earn a minor in Honors, Honors students must complete a total of five courses in Honors and a Capstone Project, and complete the First-Year and Advanced Honors SOAR badge requirements. They must also graduate with a 3.25 GPA. Students who transfer to UW or join Honors as continuing UW students may have some of their required Honors courses and SOAR requirements waived.

The Honors curriculum immerses students in multi-disciplinary inquiry. Students begin by taking the First Year Colloquium, a two-semester course sequence that takes a complex topic - for example, *Dreams and Reality - or- What Does it Mean to be a Human* and explores it with readings based in the humanities, arts, sciences, and social sciences. The course includes visits to the theatre, the Art Museum, and other UW resources, building community while learning about UW. Thereafter,

students enroll in three additional courses: an Honors Non-Western Perspectives course and six hours of upper-division coursework in Honors that emphasize interdisciplinarity. At the upper division, it is strongly recommended that students take at least one Honors course per year. Throughout their Honors academic track, students will complete each level of the Honors SOAR Badge.

The Honors experience concludes with a Capstone Project, either a paper or project,

done under faculty mentorship and presented publicly. This requirement ensures that students gain creative or research experience in an area of their interest. These projects often lead to graduate studies or a special career path.

Honors College Minor Curriculum

Specific details about required Honors College coursework can be found at:

Honors College Minor Curriculum

Honors College SOAR Badge requirements

Students are required to complete each level of the Honors SOAR Badge program. Assistance is available from the Honors College.

Honors College SOAR Badge Requirements

Capstone Project (Creative or Research-based)

- Students are not required to register for a specific course to complete the Capstone Project. There is no specific Capstone Project course; students complete the project independently in coordination with a faculty mentor.
- Honors offers optional research and capstone methods

courses (i.e. HP 4990) that prepare students for independent capstone projects and in some cases work directly on those projects.

- Honors does offer an optional independent study course if desired. Up to 6 hours of credit in the optional HP 4976 - Independent Study are allowed.
- HP 4976, HP 4990, and any other research methods courses contribute to the capstone projects. As such, they do not count toward required Honors coursework or USP requirements.
- Students may be pursuing a

major that requires a senior or capstone project, and and a major-specific project may also meet the requirement for the Honors College Capstone Project. Please contact the Capstone Project Coordinator for details. Email: honorscapstone@uwyo.edu

Honors College Additional Requirements

Students must also gradute with a 3.25

cumulative UW GPA.

Successful completion of the program is indicated on transcripts and diplomas, and seniors are recognized at graduation ceremonies.

Priority registration for enrollment in Honors courses is given to Honors College students, although non-Honors students with a 3.25 GPA or with permission of the instructor are eligible and encouraged to enroll once the general registration period begins, if space is available.

Honors College Advising

The Honors College offers supplemental advising that supports the work that students do with their primary major advisors. Honors Advising instructs students on Honors curriculum requirements and helps students select their Honors courses as well as take advantage of special Honors College opportunities. Students cannot register for Fall or Spring

classes without meeting with their primary major advisor.

Major

Honors Interdisciplinary Inquiry Concurrent Major

Students majoring in Honors Interdisciplinary Inquiry explore our past, present, and future from interdisciplinary perspectives. In addition to core courses, students select a concentrati

on from among the following: 1) Environment, Ethics, and Humankind; 2) Health, Policy and the Body; 3) Technology, Society, and the Future; and 4) Creativity, Social Justice, and our World. The major in Honors Interdisciplinary Inquiry is a concurrent degree program, meaning that students complete it alongside a second degree program. The Honors major is a 33-credit major: students complete 18 core credits and 15 credits within their chosen concentration.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3

- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Degree Requirements

Honors Interdisciplinary Inquiry, Concurrent Major Core: 18 total credits

HP 1020 First Year Colloquium 1 (COM1) (3 credits)

HP 2020 First Year Colloquium 2 (COM2) (3 credits)

HP 2150Producing Knowledge: Analysis, Creativity, & Expression (ACE) (1 credit)

HP 2250Producing Knowledge: Interviews, Surveys, & Experiment

s (ICE) (1 credit)

HP 3151 - 3157 Honors Global Perspectives Course (3 credits)*

HP 3151 - 3157 Honors Global Perspectives Course (3 credits)*

HP 4250 Producing Knowledge: Capstone Seminar (3 credits)

HP 4350 Internship (1 credit)

*A single course cannot count as both a Global Perspectives and a Concentration Upper Division Interdisciplinary Honors Elective

Honors Interdisciplinary Inquiry,

Concurrent Major Concentration: 15 credits

Students complete 15 credits from one of the following concentrations: 1) Environment, Ethics, and Humankind; 2) Health, Policy and the Body; 3) Technology, Society, and the Future; and 4) Creativity, Social Justice, and our World.

Students consult with Honors advisors and review course listings on the Honors website to select options from among the following courses that qualify for their chosen concentration.

HP 3050

HP 3151

HP 3152

HP 3153

HP 3154

HP 3155

HP 3156

HP 3157

HP 4150

HP 4151

HP 4152

HP 4153

HP 4154

HP 4155

Other Programs

Honors College Minor Curriculum

Students minoring in Honors will explore

various topics from interdisciplinary perspectives. The Honors minor is 15 credits.

Required Courses

Honors Colloquium I (3 Hours)

- HP 1020 - Honors Colloquium I Credits: 3 (COM1)

Honors Colloquium II (3 Hours)

- HP 2020 - Honors Colloquium II Credits: 3 (COM2)

Global Perspe

ctives (3 Hours)

Honors Global Perspectives courses are listed as HP 3151-3157

A single course cannot count as both a Global Perspective and an Upper Division Interdisciplinary Honors Elective.

Upper Division Interdisciplinary Honors Electives (6 Hours)

Must be two unique courses to meet these requirements; a single course cannot count as both a

Global Perspectives and an Upper Division Interdisciplinary Honors Elective.

- Any two upper division Honors courses **excluding HP 4976 and HP 4990**, which includes the following:

HP 3150

HP 3151

HP 3152

HP 3153

HP 3154

HP 3155

HP 3156

HP 3157

HP 4150

HP 4151

HP 4152

HP 4153

HP 4154

HP 4155

UW YO

UWYO courses are designed to help students acculturate to college life and coursework and learn key academic skills. Course content is combined with training in critical reading, academic writing, research, formal presentatio n, and many other emphases. UWYO courses have low student-teacher ratios in an effort to help students experience richer connection with the instructor and students in the course. Most UWYO courses imbed intellectual self-awareness within the course

goals. Several UWYO courses are part of UW learning communities and provide additional opportunities for students to engage with and work together in their cohort.

Major

Bachelor of General Studies (BGS)

General Studies is a multidisciplinary degree that bridges academic disciplines to facilitate degree completion. This degree is designed for students

with significant college credit and/or complex curricular interests. This degree requires [120] credits, [42] of which are upper-division credits.

Learning Outcomes

Students completing the Bachelor of General Studies will:

- Demonstrate knowledge in focus areas
- Demonstrate the capacity to integrate knowledge and modes of thinking from two or more disciplines
- Demonstrate an ability to think creatively about complex problems in order to construct, evaluate, and implement innovative possible solutions
- Demonstrate an ability to communicate to academic or professional audiences in written, oral, and digital form as appropriate to specific disciplines and

interdisciplinary fields

- Demonstrate higher-order thinking skills such as interpretation, analysis, evaluation, synthesis, creative generation, and innovation

The Four Year Degree Plan below demonstrates the flexibility of the Bachelor of General Studies; which is particularly valuable for transfer students with high student credit hours. However, this degree is not designed for first year students. The degree requires intensive advising before it can be declared as

a major. Addendum I includes a degree check-list which may be more useful for degree planning

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their

specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constitution Credits: 3
- FYS or USP Elective - - Any 3-

credit hour of FYS or 3-credit hours of USP electives
Credits: 3

Focus Areas (Each requires 18 hours)

A minimum of 6 hours in each Focus Area must be Upper Division

Focus Areas Listed by College

College of Agriculture, Life Sciences and Natural Resources

- Biomedical Sciences: Animal Science (ANSC), Family and Consumer Science (FCSC), Food Science (FDSC), LIFE Program (LIFE), Microbiology (MICR), Molecular Biology (MOLB), Pathobiology (PATB), Zoo/Physiology (ZOO).
- Agricultural and Natural Resources Sciences: Agroecology (AECL), Agricultural Economics (AGEC), Animal Science (ANSC), Botany (BOT), Entomology (ENTO), Ecosystem Science and Management (ESM), LIFE

Program (LIFE), Plant Sciences (PLNT), REWM, Renewable Resources (RNEW), Soil Science (SOIL), Zoo/Physiology (ZOO),

- Human Sciences and Public Policy: Agricultural Economics (AGEC), Agriculture (AGRI), Family and Consumer Sciences (FCSC), Food Science (FDSC)

College of Arts and Sciences:

- Humanities: African American and Diaspora Studies (AADS), American Studies (AMST), Anthropology (ANTH), Art & Art History (ART),

English (ENGL), Gender and Women's Studies (GWST), History (HIST), International Studies (INST), Modern and Classical Languages (LANG), Latina/o Studies (LTST), Native American & Indigenous Studies (NAIS), Philosophy (PHIL), Religious Studies (RELI), ,Theatre and Dance (THEA)

- Fine Arts: Art and Art History (ART),), African American and Diaspora Studies (AADS), Creative Writing (CW), English (ENGL), Gender and Women's Studies (GWST), Latina/o

Studies (LTST), Music (MUSC), Native American & Indigenous Studies (NAIS), Theatre and Dance (THEA)

- Social Sciences: African American and Diaspora Studies (AADS), American Studies (AMST), Anthropology (ANTH), Communications and Journalism (COMM/COJO), Criminal Justice (CRMJ), Geography (GEOG), Gender and Women's Studies (GWST), History (HIST), International Studies (INST), Latina/o Studies (LTST), Native American & Indigenous Studies

(NAIS), Political Science (POLS), Psychology (PSYC), Religious Studies, (RELI), Sociology (SOC)

- Sciences: Anthropology (ANTH), Geography (GEOG) Psychology (PSYC),

College of Business

- *Management, Marketing, and Decision Science: Decision Science (DSCI), Management (MGT), Marketing (MKT),
- *Accounting and Finance: Accounting (ACCT), Finance (FIN)
- Economics: Economics (ECON)

*Due to accreditation requirements, a student may not choose both the "Management, Marketing, and Decision Science" and the "Accounting and Finance" focus areas to comprise their Bachelor of General Studies major.

College of Education:

- +Elementary Education: Early Childhood (EDEC), Curriculum and Instruction (EDCI), Elementary Education (ELED),
- +Education and Society: Curriculum and Instruction (EDCI),

Exceptional Children (EDEX), Educational Studies (EDST), Instructional Technology (ITEC), +The Bachelor of General Studies does not satisfy the requirements for teacher licensure through the Wyoming Professional Teaching Standards Board.

College of Engineering and Physical Sciences:

- *Engineering Studies: Architectural Engineering (ARE), Civil Engineering (CE), , Chemical Engineering (CHE), Electrical Engineering (EE), Engineering Science (ES), Energy Systems

Engineering (ESE), Mechanical Engineering (ME), Petroleum Engineering (PETE)

- Math and Sciences: Chemistry (CHEM), Geology (GEOL), Mathematics, (MATH), Physics and Astronomy (ASTR), Physics (PHYS), Statistics (STAT)
- *Applied Science Studies: Atmospheric Science (ATSC), Computer Science (COSC)

College of Health Sciences:

- Community and Public Health: Health Education (HLED), Wyoming Institute for Disabilities (WIND)

School of Environment and Natural Resources:

- Environment and Natural Resources: Environment and Natural Resources (ENR), Environmental Systems Science (ESS)

School of Energy Resources:

- Energy Resource Systems (ERS)

Upper Division

21 in major/42 total

Additional Information

Degree Structure: The Bachelor

of General Studies is comprised of two curricular focus areas and one 3 credit capstone that fulfills the University Studies Program (USP) "Communications Skills 3" (C3) requirement. Each focus area is defined by subject area, fielded by a specific college, and comprised of at least 18 credit hours. Students can choose from a menu of 16 focus areas across the university. Of the 39 credits required for the major, 21 credits must be upper division with a minimum of 6 upper division credits in

each focus area. As a university-wide degree, all USP and university-wide requirements must be met.

No course can count toward more than one area of focus. Students must earn a C or better for all credits counting toward the major. One USP "Human Culture" (H) course and one "Physical & Natural World" (PN) course may also count toward the major. No college core applies to the degree. To declare this major, students must receive intensive advising from the assigned advisor located in the ACES

office.

Focus Areas: Each of the focus areas identifies a knowledge domain that includes courses from a range of disciplines within a particular college. Focus areas include all courses from each of the disciplinary prefixes/subject areas or programs specified as belonging to the focus area (no course exceptions or course lists will be maintained). This will make advising for the degree manageable and will ensure access to needed coursework. Students should choose

courses from within the focus area thematically to gain a breadth and depth of knowledge appropriate to the curricular or professional interest that ties together the two focus areas of the student's major. Students should work with the assigned advisor to ensure that their coursework includes the skills and methods necessary for expertise in the substantive area of interest.

Example Program

This is the degree

example for a plan that is not organized chronologi cally which is how the degrees in the catalog are currently built.

- Example Program 4-Year Degree Plan

University Studies Program

This degree requires that The University Studies Program 2015 requir ements are met before graduation. Some of the courses required for this major fulfill USP requiremen ts, but not all. Students should check their degree

evaluations and consult with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. &

WY Constitution Credits: 3

- FYS or USP Elective -- Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Required Courses

These are the required courses for the degree.

- COMM 1000 - Intro to Mass Media Credits: 3
- COMM 1040 - Intro to Communication Theory Credits: 3
- COMM 2100 - Media Writing Credits: 3
- AAST 2240 - Introduction to African

Studies
Credits: 3

- AAST 2360 - African American History
Credits: 3
- CRMJ 1001 - Introduction to Criminal Justice
Credits: 3
- CRMJ 2400 - Criminology
Credits: 3

Elective Courses

Please choose from the following courses:

- AGEC 1010 - Principles of Macroeconomics
Credits: 3
- AGEC 1101 - First-Year Seminar
Credits: 3
- AGEC 2020 - Farm and Ranch Business Managem

ent
Credits: 4

- FCSC 1009 - Introduction to Family and Consumer Sciences Credits: 1-3
- FCSC 1141 - Principles of Nutrition Credits: 3
- FCSC 1175 - Design Communication Credits: 3

Advising Career Exploratory Studies

222 Knight Hall

Richard Miller, Interim Director

Phone: (307) 766-2398 FAX: (307)766-2089
Web site: www.uwyo.edu/aces/index.html

Success and Engagement Programs

105 Coe Library

April Heaney, Director
Phone: (307) 766-3448
Web site: www.uwyo.edu/learn

STEP

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB><Q]).

STEP courses are housed within the Learning Resource Network (LeaRN) Program and comprise first-year and academic success courses aimed at supporting students in college research, written and professional communication, major and career exploration, and general transition strategies. STEP courses are often embedded in first-year programs including Fall Bridge, First-Year

Experience, First-Year Interest Groups (FIGs), and First-Year Seminars.

Global Engagement Office

(307) 307-766-3151
Web site: uwyo.edu/global

The Global Engagement Office (WyoGlobal) is the home of internationalization at the University of Wyoming. It includes the Vice Provost for Global Engagement, the Center for Global Studies,

International Students & Scholars, Education Abroad, and the English Language Center. Whether recruiting and supporting interna-tional students, providing exchange and study abroad opportunities, facilitating global partnership development, coordinating immigration for new international hires, or assisting with visiting dignitaries, we support the entire UW campus community in achieving their inter-nationalization goals. Stop by and visit us in the Cheney International Center to

learn more about the programs and services we offer to the UW campus community to promote global citizenship, inform visitors, and communicate with our partner institutions abroad.

Other Programs

Intensive ESL Program

The Intensive ESL Program is a full-time English language study program. Students are in class 20 hours every week for one whole semester of 15 weeks.

To study in the Intensive ESL Program, students must have an F-1 Student Visa. All instructors are experienced ESL professionals and qualified with a Masters Degree or higher in TESL or a relevant field of study.

Courses

Students take three classes daily, Monday through Thursday:

- Reading & Vocabulary: College vocabulary skills, reading strategies, and study skills.
- Listening & Speaking:

Pronunciation/conversation, lecture listening, note-taking skills, and academic presentations.

- Integrated Skills: Grammar-focused reading, writing, and speaking class using top¬ics from academic content areas.

University of Wyoming at Casper

University of Wyo

min g at Cas per

Brent L. Pickett, Ph.D., Dean
125 College Drive, Casper WY 82601
(307) 268-2713
Web site: https://www.uwyo.edu/uwcasper/

Since 1976, the University of Wyoming at Casper (UWC), in partnership with Casper College, has offered on-site courses and a slate of university degree programs in Casper. UW-Casper is also the location in Natrona County for statewide

degree programs and classes offered through Distance Credit Programs.

UW-Casper was established to meet the needs of students unable to move to Laramie. Some of these students are nontraditional students who may be older or have families, homes, or jobs in the Casper area. UW-Casper is designed to meet the academic needs of students in a setting that provides small class sizes, dedicated staff, and award-winning faculty. Courses are taught by resident and visiting

faculty who are regular or part-time members of UW academic departments. A full-service student success office handles admission, registration, financial aid, and advising.

Classes are taught onsite on the Casper College campus. More than 4,000 students have received their UW degrees through UW at Casper support and programs.

UW-Casper also has the Bachelor's of Applied Science (BAS) program. This fully online program is designed to stack onto an

associate's degree to help persons already in the job market further develop their skills and advance their career potential. There are two areas of concentration available in the BAS, one in Health Services Administration and the other in Organizational Leadership.

Undergraduate Majors

Organizational Leadership, B.A.S.
Biology, B.S.

Criminal Justice, B.A.

Secondary Career & Technical Education, B.A.S.
Communication, B.A.
Elementary

Education, B.A.

Elementary Education/ Special Education, B.A.
Medical Laboratory Science, B.S.
Psychology, B.S.
Secondary Science - Biological Science Education with Concurrent Major in Biology (BSSE), B.A.
Social Work, B.S.W.

Sociology, B.A.

Zoology, B.S.

Zoology, B.S. UW - Casper

Graduate Majors

Counseling, M.S., Concentration in Mental Health Counseling or Counseling, M.S., Concentrati

on in School Counseling

Social Work, M.S.W.

Minors and Endorsements

Secondary Biology Endorsement

Biology, Minor

Secondary Chemistry Endorsement

Chemistry Minor

Communication Minor

Criminal Justice Minor

Early Childhood Endorsement

Early Childhood Education Options

'Gender and Women's Studies Minor

Honors College

Minor Curriculum

Psychology Minor

Sociology Minor

Zoology Minor

For more information, contact UW at Casper at 125 College Drive, Casper, WY 82601; (307) 268-2713, (877) 264-9930; or by e-mail at uwcasper@uwyo.edu.

Major

Medical Laboratory Science B.S.

A degree in Medical Laboratory Science prepares healthcare professionals to perform clinical diagnostic testing in the areas of microbiology, hematology, chemistry, immunohematology, urinalysis, serology, and molecular biology.

Degree Requirements

This degree requires a minimum of 122 credits total, with 50 credit hours obtained in the junior/senior years to graduate.

Curriculum Information

The requirements of the Medical Laboratory Science degree can be found here: Medical Laboratory Science, B.S.

Organizational Leadership, B.A.S.

The Bachelor of Applied Science degree (BAS) is a completely online program designed for individuals who need or desire the skills and knowledge in leadership

and management to enhance their capabilities in their careers, in the organizations in which they work, or want to pursue a new career.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult

with their assigned academic advisor to discuss their specific course plan.

- C 1 - Communication 1 Credits: 3
- C 2 - Communication 2 Credits: 3
- C 3 - Communication 3 Credits: 3
- Q - - Quantitative Reasoning Credits: 3
- PN - - Physical and Natural World (1) Credits: 3
- PN - - Physical and Natural World (2) Credits: 3
- H - - Human Culture (1) Credits: 3
- H - - Human Culture (2) Credits: 3
- V - - U.S. & WY Constituti

on
Credits: 3

- FYS or USP Elective -- Any 3-credit hour of FYS or 3-credit hours of USP electives Credits: 3

Requirements for Organizational Leadership Majors

General Requirements

- Total credits (college requirement): 120
- 3000-level or above credits (university requirement): 42
- Fulfillment of University Studies Program

(consult advisor)

- Fulfillment of major requirements, track requirements, contemporary society, and career electives

Major Requirements

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4200 - Ethical Issues and Organizations Credits: 3
- ORGL 4900 - Capstone: Organizational Leadershi

p in Practice Credits: 3

- AGRI 4600 - Developing Organizational Leadership Credits: 3

Tracks

Students in the Organizational Leadership major can choose between two tracks to help them build skillsets pertinent to their current or future career goals.

The Community and Public Services tracks guides students through an examination of how managers operate effectively with stakeholders and employees in public

service, community, leadership, and non-profit settings.

The Organizational Management track guides students through an examination of how managers create value by understanding and developing employee and customer relationships. Students in the Organizational Management track have the opportunity to add a concentration in Health Services Administration.

Community and Public Services

Track (12 credits)

The Community and Public Services track guides students through an examination of how to operate and lead effectively with stakeholders and employees in public service, community, and non-profit settings.

Students must choose four

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- AGEC 3750 - Natural Resource Planning and Economics Credits: 3
- AGEC 4050 - Agribusiness

Marketing Credits: 3

- AGEC 4450 - Negotiation Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3
- AGEC 4660 - Community and Economic Development Credits: 3
- AGEC 4720 - Water Resource Economics Credits: 3
- AGRI 3000 - Discovering and Utilizing Ideas and Information Credits: 3
- AGRI 4350 - Problem Solving in Organizational Settings Credits: 3
- CNSL 4520 - Fundamentals of Counseling (B) Credits: 3
- CRMJ 3400 - Deviant

Behavior Credits: 3

- CRMJ 4110 - Constitutional Law: Civil Liberties and Rights Credits: 3
- ENGL 4075 - Writing for Non-Profits Credits: 3
- FCSC 3110 - Personal Finance Credits: 3
- FCSC 4117 - Understanding Community Leadership Credits: 3
- FCSC 4135 - Program Evaluation Credits: 3
- GEOG 3550 - Natural Hazards and Society Credits: 3
- POLS 3100 - Politics and the Judicial Process Credits: 3
- POLS 3550 - Political

Communication Credits: 3

- POLS 4420 - Seminar in Public Administration Credits: 3
- POLS 4465 - Survey of the Nonprofit Sector Credits: 3
- POLS 4710 - Topics in Credits: 1-3
- ORGL 4990 - Independent Study - BAS Organizational Leadership Topics and Problems Credits: 1-6

Organizational Management Track (12 credits)

The Organizational Management track guides students through an examination of how managers understand and develop employee and customer relationships and operate an organization effectively.

Students must choose four upper div

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heOrganizationalManagementTrack.

- AGRI 3000 - Discovering and Utilizing Ideas and Information Credits: 3
- AGRI 4350 - Problem Solving in Organizational Settings Credits: 3
- COJO 3010 - Business and Professional

Communication Credits: 3

- COJO 4250 - Advanced Organizational Communication Credits: 3
- ENGL 4010 - Technical Writing in the Professions Credits: 3
- MGT 3410 - Human Resources Management Credits: 3
- MGT 3420 - Organizational Behavior and Leadership Credits: 3
- MGT 4220 - Talent Acquisition Credits: 3
- MGT 4240 - Performance and Compensation Credits: 3
- MGT 4260 - Training and Developm

ent
Credits: 3
- MGT 4340 - Law for Managers Credits: 3
- MGT 4430 - Organization Design and Change Credits: 3
- MKT 4230 - Integrated Marketing Communication Credits: 3
- MKT 4240 - Consumer Behavior Credits: 3
- MKT 4250 - Digital Marketing Credits: 3
- MKT 4450 - Advanced Marketing Management Credits: 3
- MKT 4520 - Marketing Research and Analysis Credits: 3
- UWYO 4101 - BGS Capstone Design Credits: 3
- ORGL 4990 -

Independent Study - BAS Organizational Leadership Topics and Problems Credits: 1-6

Contemporary Society Requirement (2 courses, 6 credits)

Students must choose two upper division courses from the following departments to meet contemporary society requirements: AAST, AMST, ANTH, BOT, COJO, CRMJ, ENR, FCSC, GEOG,

GWST, HIST, HP, INST, LTST, MUSC, NAIS, ORTM, PHIL, POLS, RELI, SOC, SOWK, WIND

Career Electives (9 credits)

Students will work with their advisor to identify these career electives. Career electives must be upper division coursework. Students have the option of completing an internship, AGRI 4960, to fulfill six of the nine required credits.

Health Services Administration (HSA) Concentration (11 credits)

The Health Services Administration (HSA) concentration is designed for students who are interested in advancing their careers in the healthcare industry.

* Students in this concentration must take the Organizational Management track and will substitute PHCY 4441 Intro to Health Leadership

in lieu of AGRI 4350 Problem Solving in an Organizational Setting.

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- PHCY 4141 - Health Economics and Outcomes Credits: 3
- PHCY 4241 - Biopharmaceutical Regulatory Compliance Credits: 3
- PHCY 4341 - Intro to Healthcare Quality Credits: 3
- PHCY 4441 - Intro Health Institution Leadership Credits: 3

Program

Overview

Dr. Rochelle McCoy, Director-Bachelor of Applied Science Program
rmccoy3@uwyo.edu

This program is available entirely online. Entry into the program requires an application process to UW. Official transcripts from all institutions attended must be submitted to UW Admissions.

All students must complete the following:

a) Universit

y Studies Program (USP) requireme nts

b) 120 approved credits, 42 of which must be upper division (3000+), 30 of which must be obtained from UW.

The program is designed to be completed in two years, but students may move at a pace that works for them.

All courses within the Bachelor of Applied Science program must be completed with a grade of C or better. If you do not pass the course

with a grade of C or better after three attempts, you will be dismissed from the program.

Each student is assigned an advisor, who can be reached at (bas@uwyo.edu) and will be advised each semester. It is important that you work closely with your advisor to plan your course schedule.

Minor

Agribusiness Leadership Minor

Learning Outcomes

AgriBusn Leadership SLO (Student Learning Outcome) 1: Students will become better prepared to assume supervisory and other leadership roles within ag-related organizations.

AgriBusn Leadership SLO 2: Students will demonstrate knowledge of agribusiness concepts and exhibit the qualities of a successful leader.

AgriBusn Leadership SLO 3: Students will incorporate organization design,

agribusines
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marketing,
manageme
nt, and
finance
concepts to
comprehen
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assess and
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the
organizatio
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AgriBusn
Leadership
SLO 4:
Students
will
demonstrat
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ability to
communica
te research
data
findings in
verbal and
written
forms
within ag-
related
organizatio
nal
structures.

- AGEC 4050 - Agribusin ess Marketing Credits: 3
- AGEC 4060 - Agribusin ess Managem ent Credits: 3
- AGEC 4500 - Agricultur

al Finance
Credits: 3

- ORGL 3100 - Leading Organizational Innovation & Creative Planning
Credits: 3
- ORGL 4100 - Diversity & Organizational Change
Credits: 3
- ORGL 4960 - BAS Applied Science Internship
Credits: 1-6

Health Leadership Minor

Learning Outcomes

Health Leadership SLO (Student Learning

Outcome) 1: Students will become better prepared to assume supervisory and other leadership roles within a healthcare organization.

Health Leadership SLO 2: Students will demonstrate knowledge of the theories and evidence of the qualities of a successful leader.

Health Leadership SLO 3: Students will incorporate organization design and process skills into healthcare settings to comprehensively assess and enhance the organization's

performance.

Health Leadership SLO 4: Students will demonstrate the ability to communicate research data findings in verbal and written forms within healthcare organization structure.

Minor Requirements: 17 credits total

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- PHCY 4341 - Intro to Healthcare Quality Credits: 3
- PHCY 4441 - Intro Health

Institution Leadership Credits: 3

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6

Organizational Leadership Minor

The Organizational Leadership minor is designed to equip students with

essential skills and knowledge in leadership, diversity management, ethics, communication, and the ethical use of AI tools.

Curriculum Information

The curriculum comprises 15 credits spread across five courses: Innovation & Creativity, Diversity & Change, Ethics in Organization, Internship, and Capstone: Leadership in Practice. In Innovation & Creativity, students explore theories of organizational change and learn to inspire positive changes

within their teams. Diversity & Change delves into managing diverse teams effectively, covering legal compliance and HR manageme nt concepts. Ethics in Organizati on surveys moral theories and applies them to real-world scenarios, fostering self-aware leadership. The Internship offers practical leadership experience through a 42.5-hour project, while the Capstone provides case studies for students to analyze and propose solutions for organizatio nal challenges. Throughou t the minor, students

develop skills in verbal and written communication, critical thinking, and the ethical application of AI tools. The emphasis on practical experience, ethical decision-making, and diversity management prepares students for success in various organizational settings.

Learning Outcomes

SLO (Student Learning Outcome) 1: Students will learn and compare a variety of leadership and management theories that represent and reflect

on organizational structures.

SLO 2: Students will analyze and demonstrate how diversity in a workplace is necessary to produce results and innovative change.

SLO 3: Students will explore ethical theories and understand how those theories are useful in approaching decisions that have moral implications.

SLO 4: Students will demonstrate proficiency in verbal and written communication of information and research data as is needed to

be successful within an organizational structure.

SLO 5: Students will implement AI (Artificial Intelligence) tools and software in ethical and professional ways to bring resources and benefits to the organizational structure.

Required Courses - 15 credits total

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity &

Organizational Change Credits: 3

- ORGL 4200 - Ethical Issues and Organizations Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6
- ORGL 4900 - Capstone: Organizational Leadership in Practice Credits: 3

Certificate

Agribusiness Leadership Certificate

A 12-credit online asynchronous workforce certificate

featuring agribusiness marketing, management, and finance. Includes courses on organizational change, diversity, innovation, and an internship option.

Certificate Curriculum

Students must take a math placement test and have ECON 1010 as a prerequisite for this certificate.

Choose two of the three

ecourses:

- AGEC 4050 - Agribusiness Marketing Credits: 3
- AGEC 4060 - Agribusiness Management Credits: 3
- AGEC 4500 - Agricultural Finance Credits: 3

Choose two of the three courses:

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6

(3 credit hours required for certific

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Total Credit Hours: 12 Credits

Health Leadership Certificate

A 14-credit online asynchronous workforce certificate focusing on leadership in healthcare. Includes courses on American health evolution, healthcare quality, and leadership. An internship option integrates theory and practice.

Curriculum Map and Program Structure

- PHCY 4050 - Introduction to Evolution of American Health Services Credits: 2
- PHCY 4341 - Intro to Healthcare Quality Credits: 3
- PHCY 4441 - Intro Health Institution Leadership Credits: 3

Choose two of the th

reecoursees:

- ORGL 3100 - Leading Organizational Innovation & Creative Planning Credits: 3
- ORGL 4100 - Diversity & Organizational Change Credits: 3
- ORGL 4960 - BAS Applied Science Internship Credits: 1-6

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Total Credit Hours: 14 Credits

Organizational Leadership Certificate

This 12-credit workforce certificate covers Innovation & Creativity, Diversity & Change, Ethics in Organization, and a capstone course. The program enhances leadership,

communication, and ethical AI skills.

Curriculum Map and Program Structure

Choose two of the three courses:

- ORGL 3100 - Leading Organizational Innovation & Creative

Planning
Credits: 3

- ORGL 4100 - Diversity & Organizational Change
Credits: 3
- ORGL 4200 - Ethical Issues and Organizations
Credits: 3

Required courses:

- ORGL 4960 - BAS Applied Science Internship
Credits: 1-6

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- ORGL 4900 - Capstone: Organizational Leadership in Practice Credits: 3

Total Credit Hours: 12 Credits

Wyoming Institute for Human

ities Rese arch

The Wyoming Institute for Humanities Research strives to be an engine for producing interdisciplinary research in the humanities; a community for faculty, students, and the public; and a model of democratic education fit for our land-grant university.

Scott Henkel | PI, Director of the Wyoming Institute for Humanities Research and Associate Professor of English and African American

Diaspora Studies

Founded in 2013, the humanities institute promotes, supports, and showcases humanities scholarship across the university, the state, and the world. In addition to sponsoring invited speakers, events, discussion groups, the institute supports the individual and collaborative research projects of University of Wyoming faculty, students, and staff. The centerpiece of our research support for UW faculty is the Humanities Research Group fellowship program.

The humanities are the laboratory of democracy, where people learn about ethics, empathy, perspective, context, and critical, creative, and analytical thinking, as well as understanding how the history of race, class, and gender have shaped our systems and institutions. We stand for the values of free speech and academic freedom both at the University of Wyoming and for the people in the state whom we serve. Our research, teaching, and public engagement--in diverse disciplines such as

anthropology, art history, cultural studies, environmental studies, geography, history, languages, law, literature, philosophy, political science, rhetoric, and more--speak to the diversity and equality that all human beings possess.

For those reasons, the humanities institute is the home of the Democracy Laboratory, which seeks to empower students, faculty, and the public using interdisciplinary humanities methods in order to connect our communiti

es and to strengthen the quality of our democracy. The Democracy Lab is a dynamic, interdisciplinary, intergenerational space devoted to one of the most grandest challenges we face: how to make liberty and justice for all a fact of life rather than a distant dream.

The humanities have always been a central part of the Land Grant University mission, and continue to be a vital part of that mission in the 21st century. As the only Land Grant University in the state, the University of

Wyoming's mission is to "honor our heritage as the state's flagship and Land Grant University by providing accessible and affordable higher education of the highest quality; rigorous scholarship; the communication and application of knowledge; economic and community development; and responsible stewardship of our cultural, historical and natural resources."

Humanities Community: WIHR is a member of the Consortium of Humanities Centers and Institutes

(https://chcinetwork.org/). The Consortium currently has a membership of 154 organizations in the US, Europe, Asia, and Pacific Rim.

We participate in the National Humanities Alliance (www.nhalliance.org), an advocacy coalition dedicated to the advancement of humanities education, research, preservation, and public programs.

Course Offerings

Changes in Catalog Information

The course offerings and requirements of the University of Wyoming are under examination and revision continually. This catalog is not a contract; it merely presents the offerings and requirements in effect at the time of publication and in no way guarantees that the offerings and requiremen

ts will not change.

Not all courses are offered each term. The listing of courses does not imply a contractual obligation to offer the same during the year of publication of this catalog. The university reserves the right to offer, limit, or cancel course offerings for academic, funding, or facility considerations, and to cancel any offered course for which there is not sufficient enrollment.

The university reserves the right to change approved course listings at any time during a student's

term of residence.

Preparatory Courses Taught at UW by Laramie County Community College

The University of Wyoming has contracted for Laramie

County Communit y College to offer preparatory courses on the university campus. University students will register through the normal university registration process. Inclusion of these courses in a student's schedule will count as part of the credit load for determinin g full-time status; however, UW credit is not awarded. For further informatio n, contact the LCCC coordinator , at (307) 766-2514 or go to Ross Hall, rooms 26 and 27.

Cou rse

Credits

The amount of credit offered for any course work published in this catalog is based on and governed by prior university faculty recommendation and institutional determinations.

A credit hour denotes a unit of academic work. Normally, one credit hour is earned in a course meeting one hour per week for a semester (15-16 weeks). Each credit hour unit requires an average of three hours of student-effort per week. In variable-

credit courses, the efforts required of the students are proportional to the credit hours attempted.

Even if topics differ in separate sections, variable-credit courses have limits on the number of credits which can be earned in that course in a semester and/or a student's career.

Format of Course Listings

On the following pages,

courses approved for offering are listed by college, program subject, and course level (number).

The heading which precedes the brief description of each course shows the current course identification number; former course number(s), if any, in brackets; course title; a designation in bold brackets (**[QB< >Q]**, e.g. **[USP 2003 designation< >USP 2015 designation]**), if any, concerning applicability of the course to the University Studies Program (see below for designation); the

number of semester credit hours established for the course (fixed or variable with the semester); and the career maximum of credit for successive term enrollments in the identified course, if different from the established semester credit-hours limit. For example, “1-3 (Max.9)” means that a student may earn between 1 and 3 hours of credit for that course within one semester and a maximum of 9 hours within a degree career. The course description indicates any prerequisites for that

course and if it is offered for satisfactory /unsatisfactory grading only.

Course Levels

University courses are distinguished by number indicating five levels of instruction as follows:

0000-0999	F
1000-2999	F
3000-4999	F
5000-5999	F
6000-6999	I

A bracketed course number **[ ]** indicates a previous number of the same course. Double credit cannot be earned by repeating a course.

Prerequisites are the primary factor which normally govern whether a student may enroll for any particular course. However, individual departments and/or colleges may place additional restrictions on course enrollments (e.g. enrollment may be restricted by student classification).

Enrollment in engineering courses is generally limited to engineering students.

Law courses are normally open only to students approved for the program.

Graduate students may enroll in courses numbered 1000-3999

to satisfy undergraduate deficiencies but only courses numbered 4000 and above will be computed into the graduate GPA and allowed for graduate credit.

University Studies Program Designations

2015 USP Designations

C1 = Communication 1= U5C1

C2 = Communication 2 = U5C2

C3 = Communication 3 = U5C3

FYS = First-Year Seminar = U5FY

H = Human Culture = U5H

PN = Physical and Natural World = U5PN

Q = Quantitative Reasoning = U5Q

V = U.S. and Wyoming Constitutions = U5V

<u>A&S College Core</u>

G = A&S College Core Global = ASG

D = A&S College Core Diversity = ASD

<u>Honors Program</u>

HPGP =Honors Program Global Perspectives

<u>2003-2014 USP</u>

I = Intellectual Community = U3I

WA = Writing 1 = U3WA

WB = Writing 2 = U3WB

WC = Writing 3 = U3WC

CH =Cultural Humanties = U3CH

CS = Cultural Social Science = U3CS

CA = Cultural Arts = U3CA

L = Information Literacy = U3L

O = Oral Communication = U3O

P = Physical Activity and Health = U3P

QA= Quanitative Reasoning 1= U3QA

QB = Qanitative Reasoning 2 = U3QB

S = Sciences = U3S

SB = Sciences= U3SB

SE = Sciences = U3SE

SP = Sciences = U3SP

V = US & Wyoming Constitutions = U3V

D = US Diversity = U3D

G =Global Awareness = U3G

Accounting

ACCT 2010 - Principles of

Accounting I

ACCT 2020 - Principles of Accounting II

ACCT 3070 - Tax I

ACCT 3100 - Financial Statement Analysis

ACCT 3230 - Intermediate Accounting I

ACCT 3240 - Cost Accounting I

ACCT 3430 - Intermediate Accounting II

ACCT 3610 - Accounting Information Systems

ACCT 3900 - Accounting Professional Skills

ACCT 4060 - Auditing I

ACCT 4071 - Pass-Through Entities

ACCT 4540 - Cost Accounting II

ACCT 4600 - Professionalism & Ethics

ACCT 4700 -

CPA Exam Prep

ACCT 4810 - Taxes and Business Strategy

ACCT 4900 - Ind. Study in Accounting

ACCT 4910 - Topics in Accounting

ACCT 4960 - Volunteer Income Tax Assistance

ACCT 5030 - Advanced Financial

Accounting

ACCT 5040 - Seminar in Managerial Accounting

ACCT 5050 - Governmental and Not for Profit Accounting

ACCT 5060 - Auditing II

ACCT 5065 - Fraud Examination

ACCT 5066 - Seminar on Management Fraud

ACCT 5070 - Tax II

ACCT 5071 - Pass-Through Entities

ACCT 5503 - Fundamentals of Accounting in the Energy Industry

ACCT 5810 - Taxes and Business Strategy

ACCT 5850 - Advanced Problems in Accounting

ACCT 5940 - Continuing Registration: Off

Campus

ACCT 5990 - Internship

Adult Education

ADED 1008 - Eastern Thought Western Practice

ADED 5050 - Learning Theories for Education

ADED 5880 - Special Problems in Adult Education

ADED 5890 - Seminar in

Adult Education

Advising Career Exploratory Studies

ACES 1101 - FYS: New Geography of Jobs

ACES 1105 - Academic Success Skills

ACES 1150 - Major & Career Exploration

ACES 3000 - Peer Advising

ACES 3100 - Peer Advising Internship

African and American Diaspora Studies

AAST 1000 - Introduction to African American Studies

AAST 1030 - Social Justice in the 21st Century

AAST 1101 - First-Year Seminar

AAST 2240 - Introduction to African Studies

AAST 2350 - Introduction to African American Literature

AAST 2360 - African American History

AAST 2370 - Blues and African American Lit

AAST 2450 - Traditional African Religion

AAST 2490 - Topics:

AAST 3000 - African American Studies in Music

AAST 3010 - The African American Aesthetic

AAST 3130 - Global Impact of African Cultures

AAST 3260 - African Spirits in the New World

AAST 3670 - African Diaspora

AAST 3933 - African

Philosophy

AAST 4000 - Black Freedom Movement, AAST 1955-Present

AAST 4020 - The Black West

AAST 4050 - Development, Africa, and Culture

AAST 4065 - Black American Rhetorics

AAST 4066 - Rhetorics of Social Justice

AAST 4067 - Race, Gender, Media, and Rhetoric

AAST 4075 - Culture, Identity, & Place

AAST 4100 - African American Religious Culture

AAST 4160 - African American Rhetoric

AAST 4233 - Race, Gender, Ethnicity in the Media

AAST 4250 - The

Harlem Renaissance

AAST 4260 - Rhetoric and Social Justice

AAST 4450 - African American Novel

AAST 4455 - Slavery and Freedom

AAST 4675 - USWomen of Color

AAST 4970 - Internship in AAST

AAST 4975 - Independent Research

AAST 4990 - Topics:

AAST 5050 - Development, Africa, and Culture

AAST 5060 - NGOs, Development, and Culture

AAST 5065 - Black American Rhetorics

AAST 5066 - Rhetorics of Social Justice

AAST 5067 - Race, Gender, Media, and Rhetoric

AAST 5160 - African American Rhetoric

AAST 5233 - Race, Gender, Ethnicity in the Media

AAST 5250 - The Harlem Renaissance

AAST 5260 - Rhetoric and Social Justice

AAST 5455 - Slavery and Freedom

AAST 5560 - Black Popular Culture

Agricultural Economics

AGEC 1010 - Principles of Macroeconomics

AGEC 1020 - Principles of Microeconomics

AGEC 1101 - First-Year Seminar

AGEC 1499 - Ag Business Pathways for Success

AGEC 2020 - Farm and

Ranch Business Management

AGEC 2040 - Excel Applications in Ag Business

AGEC 3030 - Applied Economic Decisions

AGEC 3400 - Agricultural Law

AGEC 3420 - Applied Equity Investing

AGEC 3750 - Natural Resource Planning and

Econo mics

AGEC 3860 - World Food, Ag, & Develo pment

AGEC 4050 - Agribus iness Marketi ng

AGEC 4060 - Agribus iness Manage ment

AGEC 4200 - Gender and Race in the Econo my

AGEC 4230 - Interme diate Econo metric Theory

AGEC 4280 -

International Food and Farm Cultures

AGEC 4450 - Negotiation

AGEC 4460 - Agriculture and Economic Development

AGEC 4500 - Agricultural Finance

AGEC 4550 - Negotiation Analysis

AGEC 4600 - Community Economic Analysis

AGEC 4640 - Advanced Farm/Ranch Management

AGEC 4660 - Community and Economic Development

AGEC 4700 - Economics of Range Resources

AGEC 4710 - Natural Resource Law and Policy

AGEC 4720 - Water Resource Economics

AGEC 4830 - Agricultural Commodities and Futures Markets

AGEC 4840 - Agricultural Market Analysis

AGEC 4880 - International Agricultural Trade, Markets and Policy

AGEC 4890 - Special Topics in _____

AGEC 4910 - Problems in Agricultural Economics

AGEC 4930 - Agricultural Economics Internship

AGEC 4965 - Agribusiness Entrepreneurship

AGEC 4970 - Technical Communication for Agribusiness

AGEC 5200 - Gender and Race in the Economy

AGEC 5230 - Intermediate Econometric Theory

AGEC 5310 - Theory of Producer Behavior

AGEC 5320 - Quantitative Methods in Agricultural Economics

AGEC 5450 - Negotiation

AGEC 5550 - Negotiation Analysis

AGEC 5600 - Community Economic Analysis

AGEC 5630 - Advanc

ed Natural Resource Economics

AGEC 5650 - Communicating Research

AGEC 5660 - Community and Economic Development

AGEC 5710 - Advanced Agricultural Market Theory

AGEC 5740 - Consumer Behavior and Prices Analysis

AGEC 5880 - Advanced Seminar

AGEC 5890 - Advanced Problems in Agricultural Economics

AGEC 5900 - Practicum in College Teaching

AGEC 5920 - Continuing Registration: On Campus

AGEC 5940 - Continuing Registration: Off

Campus

AGEC 5960 - Thesis Research

AGEC 5990 - Internship

Agricultural Education

EDAG 3150 - Community Programs in Agricultural Education

EDAG 3160 - Principles of Agricultural Education

EDAG 4170 - Principl

es of Agricultural Mechanics and Technology

EDAG 4180 - Techniques of Agricultural Mechanics and Technology

EDAG 4970 - Individual Problems

Agriculture

AGRI 1460 - Field Practices: Extension

AGRI 2100 - International Experiences in Natural

Resources

AGRI 3000 - Discovering and Utilizing Ideas and Information

AGRI 4350 - Problem Solving in Organizational Settings

AGRI 4500 - International Experiences in Agriculture

AGRI 4520 - Field Practicum: Extension Work

AGRI 4600 - Developing Organizational Leadership

AGRI 4700 - Elements of Leadership

AGRI 4960 - Bachelor of Applied Science Internship

AGRI 4970 - Internship/Practicum

AGRI 4975 - Agricultural Communications Senior Project

AGRI 4990 - Topics

AGRI 5520 - Field Practicum: Extension Work

AGRI 5700 - Elements of Leadership

AGRI 5920 - Continuing Registration: On Campus

AGRI 5940 - Continuing Registration: Off Campus

AGRI 5959 - Enrichment Studies :1

AGRI 5960 - Thesis Research

Air Force ROTC

AIR 1000 - Leadership Laboratory

AIR 1010 - Heritage and Values of the Air Force I

AIR 1020 - Heritage and Values of the Air Force II

AIR 2010 - Team and Leadership Fundamentals I

AIR 2020 - Team and Leadership Fundamentals II

AIR 3010 - Leading People/ Effective Communication I

AIR 3020 - Leading People/ Effective Communication II

AIR 4010 - National Security Affairs/ Preparation for Active Duty I

AIR 4020 - National Security Affairs/ Preparation for Active Duty II

AIR 4976 - Independent Study - Aerospace Flight Credit

American Studies

AMST 1030 - Social Justice in the 21st Century

AMST 1101 - First-Year Seminar

AMST 2010 - Introduction to American Studies

AMST 2070 - Introduction to Museology

AMST 2400 - Introduction to Historic Preservation

AMST 2705 - Museology II

AMST 3050 - Cultures of Nature in the United States

AMST 3100 - Food in American Culture

AMST 3400 - Popular Music and Sexualities

AMST 3800 - Chicanas/os in Contemporary Society

AMST 4010 - Independent Study

AMST 4020 - American Folklife

AMST 4030 - Ecology of Knowledge

AMST 4040 - Historic Preservation and Sustainability

AMST 4051 - Environmental Politics

AMST 4052 - Federal Land Politics

AMST 4075 - Culture, Identity, & Place

AMST 4078 - Museum Studies Minor Internship

AMST 4250 - The Harlem Renaissance

AMST 4300 - American Culture and the Public Sector

AMST 4430 - Queer Theory

AMST 4500 - American Civilization

AMST 4550 - American Southwest

AMST 4640 - Art and Ecology

AMST 4650 - Women, Gender & Migration

AMST 4660 - Methods of Social Justice

AMST 4800 - Historic

Preservation

AMST 4900 - Field Studies in American Culture

AMST 4970 - Internship

AMST 4985 - Senior Seminar

AMST 5010 - Independent Study

AMST 5020 - American Folklife

AMST 5030 - Ecology of Knowledge

AMST 5075 -

Culture, Identity, & Place

AMST 5200 - Material Culture

AMST 5250 - The Harlem Renaissance

AMST 5300 - American Culture and the Public Sector

AMST 5400 - American Built Environment

AMST 5430 - Queer Theory

AMST 5500 - Topics in Americ

an Studies

AMST 5510 - Readings in American Studies

AMST 5550 - American Southwest

AMST 5550 - Varieties of Literary Evidence

AMST 5560 - Black Popular Culture

AMST 5650 - Women, Gender & Migration

AMST 5660 - Method

s of Social Justice

AMST 5800 - Historic Preservation

AMST 5900 - Practicum in College Teaching

AMST 5920 - Continuing Registration: On Campus

AMST 5940 - Continuing Registration: Off Campus

AMST 5959 - Enrichment Studies

AMST 5960 - Thesis Research

AMST 5990 - Internship

Animal Science

ANSC 1009 - Introduction to Animal Science for 4-H/Youth

ANSC 1010 - Introduction to Animal Science

ANSC 1030 - Equine Management

ANSC 1070 - Livestock

Fitting and Showing

ANSC 1101 - First-Year Seminar

ANSC 2000 - Equine Industry Career Preparation

ANSC 2010 - Domestic Animal Metabolism

ANSC 2020 - Feeds and Feeding

ANSC 2035 - Companion Animal Nutrition

ANSC 2070 - Livestock Behavior and Handling

ANSC 3010 - Domestic Animal Systems Physiology

ANSC 3100 - Principles of Animal Nutrition

ANSC 3150 - Equine Nutrition and Physiology

ANSC 3250 - Equine Behavior and Welfare

ANSC 3535 -

Introduction to Wool Evaluation

ANSC 3540 - Collegiate Wool Judging

ANSC 3545 - Introduction to Livestock Evaluation

ANSC 3550 - Advanced Livestock Evaluation

ANSC 3555 - Equine Evaluation and Selection

ANSC 3560 - Advanced

Equine Evaluation and Selection

ANSC 3650 - Exploring Graduate Study in Animal Science

ANSC 4050 - Animal Growth and Development

ANSC 4061 - Cell Signaling

ANSC 4090 - Precision Livestock Management

ANSC 4100 - Nutritional

Management

ANSC 4111 - Equine Health and Disease

ANSC 4120 - Principles of Mammalian Reproduction

ANSC 4130 - Management of Reproduction

ANSC 4132 - Equine Reproduction

ANSC 4150 - Physiology of Ruminant Digestion

ANSC 4210 - Wool

Structures and Properties

ANSC 4220 - Advanced Beef Production and Management

ANSC 4230 - Advanced Sheep Production & Management

ANSC 4240 - Advanced Swine Production and Management

ANSC 4250 - Advanced Equine Production and Management

ANSC 4260 - Mammalian Endocrinology

ANSC 4500 - Problems in Animal Science

ANSC 4540 - Principles of Animal Breeding

ANSC 4550 - Internship in Animal Science

ANSC 4630 - Topics and Issues in Animal Science

ANSC 4900 - Undergraduate Teaching

Practicum

ANSC 5050 - Animal Growth and Development

ANSC 5061 - Cell Signaling

ANSC 5090 - Precision Livestock Management

ANSC 5100 - Nutritional Management

ANSC 5111 - Equine Health and Disease

ANSC 5120 - Principles of

Mammalian Reproduction

ANSC 5150 - Physiology of Ruminant Digestion

ANSC 5180 - SAS Applications in Agriculture

ANSC 5260 - Mammalian Endocrinology

ANSC 5300 - Stem Cell & Regenerative Bio.

ANSC 5510 - Mineral Metabolism

ANSC 5540 - Principles of Animal Breeding

ANSC 5550 - Investigations in Animal Nutrition

ANSC 5620 - Wool Measurement Methods

ANSC 5680 - Wool Problems Analysis

ANSC 5770 - Lipid Metabolism

ANSC 5780 - Investigations in

Animal Breeding

ANSC 5865 - Advanced Seminar in Nutrition

ANSC 5870 - Reproductive Biology Seminar

ANSC 5880 - Advanced Topics

ANSC 5890 - Advanced Seminar

ANSC 5900 - Practicum in College Teaching

ANSC 5920 -

Continuing Registration: On Campus

ANSC 5940 - Continuing Registration: Off Campus

ANSC 5959 - Enrichment Studies

ANSC 5960 - Thesis Research

ANSC 5961 - Graduate Project

ANSC 5980 - Dissertation Research

ANSC 5990 - Internship

Anthropology

ANTH 1100 - Introduction to Biological Anthropology

ANTH 1101 - First-Year Seminar

ANTH 1200 - Introduction to Cultural Anthropology

ANTH 1300 - Introduction to Archaeology

ANTH 1325 - Wyoming

Archaeology

ANTH 1450 - World Archaeology

ANTH 2000 - Introduction to Linguistic Anthropology

ANTH 2070 - Introduction to Museology

ANTH 2075 - Museology II

ANTH 2110 - Forgotten Africa: Intro to African Civilizations

ANTH 2200 - World Culture

ANTH 2210 - North American Indians

ANTH 3015 - Introduction to Global Music

ANTH 3300 - Ethnographic Methods in Anthropology

ANTH 3310 - Introduction to Anthropology Research Methods

ANTH 3400 - Hunters/Gatherers

ANTH 3410 - Maya, Aztec,

and Inca Culture s

ANTH 3420 - The Anthro pology of Global Issues

ANTH 4000 - Confere nce

ANTH 4010 - History of Anthro pologic al Though t

ANTH 4020 - Semina r

ANTH 4021 - Semina r in Archae ology

ANTH 4022 - Semina

r in Biological Anthropology

ANTH 4023 - Seminar in Cultural Anthropology

ANTH 4024 - Seminar in Linguistic Anthropology

ANTH 4075 - Culture, Identity, & Place

ANTH 4078 - Museum Studies Minor Internship

ANTH 4110 - Zooarchaeology I

ANTH 4115 - Lithic Analysis

ANTH 4120 - North American Archaeology

ANTH 4125 - Northwestern Plains Prehistory

ANTH 4130 - Old World Archaeology

ANTH 4135 - Quantitative Methods in Anthropology

ANTH 4140 - Archeological Field School

ANTH 4145 - Origins of the State

ANTH 4150 - Seminar in Prehistory

ANTH 4155 - Applied Computing for Archaeologists

ANTH 4160 - Mapping Culture: Introduction to GIS in Anthropology

ANTH 4170 - Geoarchaeology

ANTH 4175 - South Americ

an Prehistory

ANTH 4190 - Public Archaeology

ANTH 4210 - Human Osteology

ANTH 4215 - Hominin Evolution

ANTH 4220 - Human Variation

ANTH 4230 - Forensic Anthropology

ANTH 4240 - Forensic Anthropology Laboratory

ANTH 4255 - Bioarchaeology

ANTH 4260 - Anthropology of Food, Culture, and Nutrition

ANTH 4310 - Environmental Anthropology

ANTH 4320 - Political Anthropology

ANTH 4340 - Culture Change

ANTH 4350 - Medical Anthropology

ANTH 4380 - Visual

Anthro pology

ANTH 4565 - Historic al Archae ology

ANTH 4740 - Native Americ an Langua ges and Culture s

ANTH 4765 - Langua ge Humor and Games

ANTH 4775 - Langua ge and Gender

ANTH 4785 - Race and Langua ge

ANTH 4795 - Langua

ge Change

ANTH 4970 - Internship

ANTH 4975 - Undergraduate Practicum in Anthropology

ANTH 5000 - Special Problems

ANTH 5005 - Graduate Seminar in Anthropology

ANTH 5010 - 20th Century Anthropology Theory

ANTH 5015 - Archae

ological Theory

ANTH 5020 - Biological Anthropology

ANTH 5030 - Linguistic Anthropology

ANTH 5110 - Zooarchaeology I

ANTH 5115 - Lithic Analysis

ANTH 5120 - North American Archaeology

ANTH 5125 - Northwestern Plains Prehistory

ANTH 5130 - Old World Archaeology

ANTH 5135 - Quantitative Methods in Anthropology

ANTH 5145 - Origins of the State

ANTH 5150 - Seminar in Prehistory

ANTH 5155 - Applied Computing for Archaeologists

ANTH 5160 - Mapping Culture:

Introduction to GIS in Anthropology

ANTH 5165 - Advanced Archaeological Research

ANTH 5170 - Geoarchaeology

ANTH 5175 - South American Prehistory

ANTH 5180 - Advanced Archaeological Field Studies

ANTH 5190 - Public Archaeology

ANTH 5210 - Human Osteology

ANTH 5215 - Hominin Evolution

ANTH 5220 - Human Variation

ANTH 5240 - Forensic Anthropology Laboratory

ANTH 5255 - Bioarchaeology

ANTH 5260 - Anthropology of Food, Culture, and Nutrition

ANTH 5310 - Environmental Anthropology

ANTH 5320 - Political Anthropology

ANTH 5340 - Culture Change

ANTH 5350 - Medical Anthropology

ANTH 5565 - Historical Archaeology

ANTH 5730 - Field Techniques

ANTH 5740 - Native American Langua

ges and Culture s

ANTH 5765 - Langua ge Humor and Games

ANTH 5775 - Langua ge and Gender

ANTH 5785 - Race and Langua ge

ANTH 5795 - Langua ge Change

ANTH 5875 - Gradua te Practic um

ANTH 5880 - Profess ionalis m

ANTH 5890 - Teaching Anthropology

ANTH 5900 - Practicum in College Teaching

ANTH 5920 - Continuing Registration: On Campus

ANTH 5940 - Continuing Registration: Off Campus

ANTH 5959 - Enrichment Studies:

ANTH 5960 -

Thesis Research

ANTH 5980 - Dissertation Research

ANTH 5990 - Internship

ASTR 2000 - Anthro test course

Arabic

ARBC 1010 - First Year Arabic I

ARBC 1020 - First Year Arabic II

ARBC 2030 - Second Year Arabic I

ARBC 2040 - Second Year Arabic II

ARBC 3050 - Modern Arabic and its Dialects

ARBC 3060 - Arabic Writing

ARBC 4990 - Topics in Arabic

Architectural Engineering

ARE 1000 - Exploring CAECM

ARE 1060 - Architectural

Design Studio I

ARE 2060 - Architectural Design Studio II

ARE 2410 - Fundamentals of Building Performance

ARE 3030 - History of Architecture

ARE 3060 - Sustainable Building Metrics

ARE 3110 - Professional Practice

ARE 3200 - Structural Analysis I

ARE 3210 - Civil Engineering Materials

ARE 3300 - Building Electrical and Plumbing Systems

ARE 3360 - Fundamentals of Transport Phenomena

ARE 3400 - Heating, Ventilating and Air Conditi

oning of Buildings

ARE 3600 - Architectural Design Studio III

ARE 3890 - Engineering Honors Program Research Methods

ARE 4040 - Historic Preservation and Sustainability

ARE 4050 - Modern Engineering Practice

ARE 4200 -

Structural Analysis II

ARE 4250 - Structural Steel Design

ARE 4260 - Structural Concrete Design

ARE 4265 - Prestressed Concrete Design

ARE 4285 - Masonry Design

ARE 4295 - Structural Timber Design

ARE 4330 - Buildin

g Electrical Systems

ARE 4390 - Building Safety and Fire Protection

ARE 4430 - HVAC Systems Analysis and Design

ARE 4490 - Modeling and Optimization of Energy Systems

ARE 4600 - Architectural Design Studio IV

ARE 4720 - Structural Systems Design Project

ARE 4740 - Mechanical Systems Design Project

ARE 4920 - Senior Architectural Engineering Problems

ARE 4975 - Civil and Architectural Engineering Internship

ARE 5265 - Prestressed Concret

e
Design

ARE 5285 - Masonry Design

ARE 5295 - Structural Timber Design

ARE 5600 - Collaborative BIM Design

ARE 5700 - Architectural Engineering Problems I

Army ROTC/Military Science

ARMY 1010 - Introduction to

the Army

ARMY 1011 - Basic Military Conditioning Level I

ARMY 1020 - Foundations of Leadership

ARMY 1021 - Advanced Military Conditioning Level I

ARMY 2010 - Leadership and Ethics

ARMY 2011 - Basic Military Conditioning Level II

ARMY 2020 -

Army Doctrine and Decision Making

ARMY 2021 - Advanced Military Conditioning Level II

ARMY 2050 - Internship: Leader's Training Course

ARMY 2060 - Competent and Confident Leadership

ARMY 3010 - Training Management & Warfighting

**Functio
ns**

**ARMY
3011 -
Basic
Military
Conditi
oning
Level III**

**ARMY
3015 -
Junior
Staff
Office
Practic
um I**

**ARMY
3016 -
Junior
Staff
Office
Practic
um I**

**ARMY
3020 -
Applied
Leader
ship in
Small
Unit
Operati
ons**

**ARMY
3021 -
Advanc
ed
Military
Conditi**

oning Level III

ARMY 3025 - Conduct of Training

ARMY 3026 - Assessment of Training

ARMY 3030 - Practicum in Leadership

ARMY 3050 - Army ROTC Nurse Summer Training Program

ARMY 3060 - Military Skills Practicum: Ranger

Challenge

ARMY 3070 - Cadet Professional Development Practicum

ARMY 4010 - The Army Officer

ARMY 4011 - Basic Military Conditioning Level IV

ARMY 4012 - Basic Military Conditioning Level V

ARMY 4015 - Staff Officer Practicum I

ARMY 4016 -

Staff Officer Practicum II

ARMY 4020 - Company Grade Leadership

ARMY 4021 - Advanced Military Conditioning Level IV

ARMY 4022 - Advanced Military Conditioning Level V

ARMY 4025 - Principles of Training Management

ARMY 4026 - Preparation of

Training

ARMY 4050 - Management Internship: Cadet Troop Leadership Training

ARMY 4975 - Military Science Independent Study

ARMY 4976 - Advanced Military Science Independent Study

Art

ART 1001 - Art and Human Culture

ART 1005 -

Drawing I

ART 1101 - First-Year Seminar

ART 1110 - Foundation: Two Dimensional

ART 1115 - Digital Media

ART 1120 - Foundation: Three Dimensional

ART 1130 - Foundation: Color Theory

ART 1140 - Foundation: Four

Dimensional

ART 2000 - Portfolio Review

ART 2002 - Special Topics In:

ART 2005 - Drawing II

ART 2010 - Art History I

ART 2020 - Art History II

ART 2030 - History of Graphic Design

ART 2070 - Introduction to

Museology

ART 2075 - Museology II

ART 2110 - Type I: Thinking with Type

ART 2112 - VCD I Visual Thinking

ART 2125 - VCD II Visual Programming

ART 2210 - Painting I

ART 2255 - Introduction to Photography, Digital

ART 2265 -

Introduction to Photography, Black and White

ART 2305 - Techniques: Wood/Art Preparation

ART 2310 - Sculptural Practices I

ART 2350 - Metalsmithing I

ART 2425 - Ceramics I

ART 3002 - Special Topics In:

ART 3005 -

Drawing III

ART 3030 - History of Architecture

ART 3052 - Life Drawing I

ART 3112 - Type: Type, Images, and Narrative

ART 3120 - VCD III: Visual Making

ART 3150 - VCD IV: Visual Imaging in Time

ART 3180 - VCD VI: Visual Effects

ART 3210 - Painting II

ART 3250 - Watercolor Painting I

ART 3260 - Illustration I

ART 3265 - Intermediate Photography

ART 3310 - Sculptural Practices: Cast Form I

ART 3320 - Sculptural Practices: Mixed Media I

ART 3330 -

Sculptural Practices: Assembled Form I

ART 3345 - Sculptural Practices: Special Topics

ART 3350 - Metalsmithing II

ART 3410 - Ceramics III/I

ART 3420 - Ceramics III/II

ART 3430 - Methods I

ART 3490 - Philosophy, Theory

and Issues

ART 3500 - Book Arts

ART 3510 - Printmaking I

ART 3550 - Art Education Practicum

ART 3710 - Gender: Humanities Focus

ART 3720 - Art and Architecture of Medieval Islam

ART 3760 - American Art History

ART 4000 - Post Baccalaureate Seminar

ART 4002 - Arts Entrepreneurship Seminar

ART 4005 - Drawing IV

ART 4010 - Contemporary Art: Theory/Practice

ART 4052 - Life Drawing II

ART 4060 - VCD V: Visual Interactivity

ART 4078 - Museum Studies Minor Internship

ART 4110 - Computer Graphics II

ART 4120 - VCD VI: Senior Design Studio

ART 4210 - Painting III

ART 4220 - Painting Topics

ART 4250 - Watercolor Painting II

ART 4260 -

Illustration II

ART 4265 - Photography III

ART 4310 - Sculptural Practices: Cast Form II

ART 4330 - Sculptural Practices: Assembled Form II

ART 4355 - Metalsmithing III

ART 4360 - Metalsmithing: Special Topics

ART 4400 -

Internship

ART 4410 - Ceramics IV/I

ART 4420 - Ceramics IV/II

ART 4425 - Graphics Internship

ART 4440 - Methods II

ART 4460 - Curriculum Design

ART 4510 - Printmaking II

ART 4520 - Advanced Printmaking II : Exhibition and

Professional Preparation

ART 4600 - Professional Practices and Strategies

ART 4620 - Problems in Art

ART 4635 - Preparation for International Study in Art

ART 4650 - International Study of Art

ART 4655 - Outdoor Studio

ART 4670 - Comple

tion Internat ional Study in Art

ART 4710 - Mediev al Art

ART 4720 - 15th Century Renais sance Art

ART 4730 - 19th Century Europe an Art

ART 4740 - 20th Century Europe an Art

ART 4760 - Americ an Art in the 20th Century

ART 4770 - Contem

porary Arts Semina r

ART 4780 - History of Women Artists

ART 4790 - Art Semina r

ART 4800 - BFA Capsto ne I

ART 4810 - Reside ncy for Elemen tary

ART 4820 - Reside ncy for Second ary

ART 4830 - Victoria n Women 's

Lives: Their Art, Literature and Culture

ART 4840 - BFA Capstone II

ART 4975 - Independent Study and Research

ART 5430 - Lo-Tech Ceramics

ART 5650 - Art and Ideas

ART 5670 - Term Creative Project

ART 5710 -

Medieval Art

ART 5740 - 20th Century European Art

ART 5900 - Practicum in College Teaching

ART 5920 - Continuing Registration: On Campus

ART 5959 - Enrichment Studies

ART 5960 - Thesis Research

Arts and Scien

ces/ Special Courses

AS 2000 - Study Abroad

AS 2400 - Lower-Division Internship in ___

AS 2490 - Special Topics in__

AS 4400 - Upper-Division Internship in ___

AS 4900 - Special Topics in _____

AS 4975 - Independent Study

Astronomy

ASTR 1000 - Descriptive Astronomy

ASTR 1050 - Survey of Astronomy

ASTR 1070 - The Earth: Its Physical Environment

ASTR 2310 - General Astronomy I

ASTR 2320 - General Astronomy II

ASTR 4000 - Astronomy for Teachers

ASTR 4100 - Astrophysics for Secondary Teachers

ASTR 4610 - Introduction to Astrophysics

ASTR 4620 - Modern Research in Astrophysics

ASTR 4860 - Problems in (TOPIC)

ASTR 5150 - Astronomical Techniques

ASTR 5160 - Data Mining in Large Astronomical Surveys

ASTR 5420 - Stellar Evolution and Structure

ASTR 5460 - Galactic Structure and Evolution: Cosmology

ASTR 5465 - Galaxies

ASTR 5470 - Interstellar Medium and Diffuse Matter

ASTR 5490 - Planets and Their Stars

ASTR 5630 - General Relativity and Cosmology I

ASTR 5860 - Independent Study

ASTR 5870 - Special Topics in Astronomy

ASTR 5960 - Thesis Research

ASTR 5980 - Dissertation Research

Atmospher

ic Science

ATSC 1101 - First-Year Seminar

ATSC 2000 - Introduction to Meteorology

ATSC 2100 - Global Warming: The Science of Humankinds' Energy Consumption Impacting Climate

ATSC 2200 - Severe and Unusual Weather

ATSC 3890 - Engineering Honors Program Research Methods

ATSC 4009 - Objective Data Analysis and Machine Learning in the Physical Sciences

ATSC 4320 - The Ocean Environment

ATSC 4580 - Honors Undergraduate Research

ATSC 4650 -

Undergraduate Research in Atmospheric Science

ATSC 4900 - Problems in Atmospheric Science

ATSC 5005 - Objective Analysis in Geosci.

ATSC 5008 - Mesoscale Meteorology

ATSC 5009 - Objective Data Analysis and Machine Learning in the Physical

Sciences

ATSC 5010 - Physical Meteorology I

ATSC 5011 - Physical Meteorology II

ATSC 5014 - Dynamic Meteorology

ATSC 5016 - Synoptic Meteorology

ATSC 5018 - Ethics and Research Methods

ATSC 5040 - Climate Science

and Climate Change

ATSC 5155 - Weather Analysis & Forecasting

ATSC 5210 - Cloud and Precipitation Systems

ATSC 5310 - Atmospheric Dynamics II

ATSC 5320 - The Ocean Environment

ATSC 5330 - Boundary Layer Meteorology

ATSC 5340 - Radar Meteorology

ATSC 5350 - Atmospheric Chemistry

ATSC 5360 - Aircraft Instrumentation

ATSC 5370 - Satellite Remote Sensing

ATSC 5500 - Atmospheric Radiation and Optics

ATSC 5600 - Advanced Cloud Microphysics

ATSC 5700 - Numerical Modeling of Atmosphere

ATSC 5880 - Atmospheric Science Problems

ATSC 5890 - Atmospheric Science Seminar

ATSC 5900 - Practicum in College Teaching

ATSC 5920 - Continuing Registration: On Campus

ATSC 5940 - Continuing Registration: Off Campus

ATSC 5959 - Enrichment Studies

ATSC 5960 - Thesis Research

ATSC 5980 - Dissertation Research

ATSC 5990 - Internship

Bioengineering

BE 4580 - Honors Undergraduate

Research

BE 4810 - Bioinstrumentation

BE 4820 - Biomedical Signal Processing

BE 5410 - Rehabilitation Engineering

BE 5810 - Bioinstrumentation

BE 5820 - Biomedical Signal Processing

BE 5959 - Enrichment Studies

Biomedical Science

BMS 5880 - Biomedical Sciences Research Ethics

BMS 5920 - Continuing Registration: On Campus

BMS 5940 - Continuing Registration: Off Campus

BMS 5960 - Thesis Research

BMS 5980 -

Dissertation Research

BMS 5985 - Seminar

Botany

BOT 1000 - Plants, Women, and the Environment

BOT 1101 - First-Year Seminar

BOT 3000 - Plant Ecophysiology/ Plant Form and Function

BOT 3100 - Plants and

Civilization

BOT 3600 - Plant Diversity and Systematics

BOT 4200 - Plant-Microbe Interactions

BOT 4235 - Marine Biology

BOT 4280 - Paleobotany

BOT 4360 - Mushrooms of the Rocky Mountains

BOT 4395 - Symbiosis of Forest

Ecosystems

BOT 4420 - Conservation Biology

BOT 4444 - Biology Capstone

BOT 4550 - Computational Biology

BOT 4640 - Flora of the Rocky Mountains

BOT 4664 - Special Topics in Evolution

BOT 4680 - Taxonomy of Vascular Plants

BOT 4700 - Vegetation Ecology

BOT 4730 - Plant Physiological Ecology

BOT 4745 - Terrestrial Ecosystem Ecology

BOT 4775 - Forest Ecology

BOT 4780 - Biogeochemistry

BOT 4790 - Special Topics in Ecology

BOT 4965 - Undergraduate Research in Botany

BOT 4970 - Internship

BOT 5000 - Graduate Seminar

BOT 5060 - Fundamental Concepts in Evolution

BOT 5150 - Research in Remote Sensing

BOT 5200 - Plant-Microbe Interactions

BOT 5235 - Marine Biology

BOT 5280 - Paleobotany

BOT 5320 - Research in Mycology

BOT 5395 - Symbiosis of Forest Ecosystems

BOT 5420 - Research in Physiology

BOT 5480 - Spatial Information Sciences Seminar

BOT 5550 -

Computational Biology

BOT 5555 - Computational Biol Practicum

BOT 5600 - Ecological Modeling

BOT 5610 - Research in the Taxonomy of Vascular Plants

BOT 5650 - Readings in Plant Systematics

BOT 5664 - Topics: Evolution

BOT 5665 - Research in Evolutionary Biology

BOT 5690 - Special Topics in Systematics

BOT 5700 - Vegetation Ecology

BOT 5710 - Research in Ecology

BOT 5720 - Research in Physiological Ecology

BOT 5730 - Plant Physiological

Ecology

BOT 5745 - Terrestrial Ecosystem Ecology

BOT 5750 - Seminar in Ecophysiology

BOT 5775 - Forest Ecology

BOT 5780 - Biogeochemistry

BOT 5790 - Special Topics in Ecology

BOT 5900 - Practicum in College

Teaching1

BOT 5920 - Continuing Registration: On Campus

BOT 5940 - Continuing Registration: Off Campus

BOT 5960 - Thesis Research

BOT 5980 - Dissertation Research

Business

BKCH 3021 - Fundamentals of

Blockchain

BKCH 4021 - Business Applications of Blockchain

BKCH 4121 - Case Studies in Block Chain

BKCH 4900 - Ind. Study in Blockchain

BKCH 4910 - Topics in Blockchain

BUSN 1101 - First-Year Seminar

BUSN 2470 -

Internship in Business

BUSN 4600 - Advanced Internship in Business

BUSN 4990 - Senior Exit Exam

BUSN 5066 - Low Income Tax Clinic

Chemical Engineering

CHE 1005 - Introduction to Chemical Engineering

CHE 2005 - Chemical Process Analysis

CHE 2060 - Chemical Engineering Computing

CHE 2070 - Chemical Thermodynamics

CHE 2080 - Chemical Engineering Fluid Mechanics

CHE 2090 - Practical Fundamentals of Proces

s Control

CHE 3015 - Chemical Thermodynamics II

CHE 3026 - Heat Transfer

CHE 3028 - Mass Transfer

CHE 3035 - Separation Processes

CHE 3040 - Unit Operations Laboratory I

CHE 3050 - Unit Operations

Laboratory I

CHE 3072 - Techno-economic Analysis of Chemical Processes

CHE 3090 - Applying Simulation to Dynamic Processes

CHE 3100 - Fundamentals of Bioengineering

CHE 3200 - Fundamentals of Solids Handling

CHE 3890 - Engineering Honors Program Research Methods

CHE 3900 - Undergraduate Research

CHE 4000 - Environment, Technology and Society

CHE 4050 - Unit Operations Laboratory II

CHE 4060 - Reaction Engineering

CHE 4070 - Process Simulation & Economics

CHE 4080 - Senior Design

CHE 4090 - Process Dynamics and Control

CHE 4092 - Controlling Process Systems

CHE 4100 - Biochemical Engineering

CHE 4160 - Biomedical Engineering-

Transport Processes

CHE 4165 - Biomaterials

CHE 4200 - Industrial Chemical Production

CHE 4210 - Natural Gas Processes and Modeling

CHE 4220 - Metabolic and Protein Engineering

CHE 4270 - Advanced Process Simulation

CHE 4430 - Green Chemistry and Global Environmental Problems

CHE 4481 - Geological Carbon Sequestration

CHE 4580 - Honors Undergraduate Research

CHE 4970 - Internship in Chemical Engineering

CHE 4972 - Internship in Process Control

**Engine
ering**

**CHE
4990 -
Topics
in
Chemic
al
Engine
ering**

**CHE
5010 -
Transp
ort
Pheno
mena**

**CHE
5020 -
Thermo
dynami
cs**

**CHE
5030 -
Reactio
n
Kinetic
s**

**CHE
5060 -
Flow
through
Porous
Media**

**CHE
5090 -
Gradua
te
Teachin**

g and Research: Theory and Methods

CHE 5100 - Biochemical Engineering

CHE 5150 - Topic in Chemical Engineering

CHE 5160 - Biomedical Engineering - Transport Processes

CHE 5165 - Biomaterials

CHE 5190 - Polymeric

Chemistry Engineering

CHE 5220 - Metabolic and Protein Engineering

CHE 5230 - Advanced Catalysis and Characterization

CHE 5355 - Mathematical Methods in Chemical Engineering

CHE 5410 - Advanced Biological Wastewater Treatment

CHE 5440 - Fluid Mechanics

CHE 5481 - Geological Carbon Sequestration

CHE 5600 - Research Data Management

CHE 5700 - Fundamentals of Coal Utilization

CHE 5880 - Problems in Chemical Engineering

CHE 5890 - Chemical Engineering

Seminar

CHE 5900 - Practicum in College Teaching

CHE 5920 - Continuing Registration: On Campus

CHE 5940 - Continuing Registration: Off Campus

CHE 5960 - Thesis Research

CHE 5980 - Dissertation Research

CHE 5990 - Internship

Chemistry

CHEM 1000 - Introductory Chemistry

CHEM 1001 - The Chemical Community

CHEM 1020 - General Chemistry I

CHEM 1030 - General Chemistry II

CHEM 1050 - Advanced General Chemistry I

CHEM 1060 - Advanced General Chemistry II

CHEM 2000 - Special Topics in the Laboratory

CHEM 2230 - Quantitative Analysis

CHEM 2300 - Introductory Organic Chemistry

CHEM 2420 - Organic Chemistry I

CHEM 2440 - Organic Chemistry II

CHEM 3020 - Environmental Chemistry

CHEM 3550 - Physical Chemistry for the Life Sciences

CHEM 4000 - Career Skills

CHEM 4040 - Chemical Literature

CHEM 4050 - Solar Energy Conversion

CHEM 4100 - Inorganic Chemistry Laboratory

CHEM 4110 - Introductory Inorganic Chemistry

CHEM 4230 - Instrumental Methods of Chemical Analysis

CHEM 4400 - Biological Chemistry

CHEM 4507 - Physical Chemistry I

CHEM 4508 - Physical Chemistry II

CHEM 4515 - Applied

Mathematics in Physical Chemistry I

CHEM 4516 - Applied Mathematics in Physical Chemistry II

CHEM 4525 - Physical Chemistry Lab I

CHEM 4530 - Physical Chemistry Laboratory II

CHEM 4560 - Molecular Modeling

CHEM 4920 - Special

Problems in Chemistry

CHEM 4930 - Undergraduate Research

CHEM 5000 - Seminar in Chemistry

CHEM 5100 - Special Topics in Advanced Inorganics

CHEM 5111 - Advanced Inorganic Chemistry

CHEM 5115 - Descriptive Inorganic

Chemistry

CHEM 5140 - Organometallic Chemistry

CHEM 5150 - Inorganic Group Seminar

CHEM 5190 - Research in Inorganic Chemistry

CHEM 5200 - Special Topics in Analytical Chemistry

CHEM 5220 - Modern Electroanalytical

Methods

CHEM 5240 - Optical Methods of Chemical Analysis

CHEM 5250 - Advanced Chemical Instrumentation

CHEM 5260 - Separation Methods

CHEM 5290 - Research in Analytical Chemistry

CHEM 5300 - Special Topics

Synthetic

CHEM 5310 - Organic Group Seminar

CHEM 5320 - Spectroscopic Methods of Structure Determination

CHEM 5330 - Advanced Organic Chemistry

CHEM 5340 - Synthetic Methods in Organic Chemistry

CHEM 5390 - Research in Organic

Chemistry

CHEM 5400 - Biological Chemistry

CHEM 5500 - Special Topics in Physical Chemistry

CHEM 5501 - Physical Group Seminar

CHEM 5515 - Methods of Applied Mathematics in Physical Chemistry I

CHEM 5516 - Applied Mathematics in

Physical Chemistry II

CHEM 5530 - Quantum Chemistry

CHEM 5540 - Molecular Spectroscopy

CHEM 5560 - Molecular Modeling

CHEM 5590 - Research in Physical Chemistry

CHEM 5790 - Research in Biological Chemistry

CHEM 5820 - Advanced Problems in Chemistry

CHEM 5900 - Practicum in College Teaching

CHEM 5920 - Continuing Registration: On Campus

CHEM 5940 - Continuing Registration: Off Campus

CHEM 5959 - Enrichment Studies

CHEM 5960 - Thesis Research

CHEM 5980 - Dissertation Research

CHEM 5990 - Internship

Chinese

CHIN 1010 - First Year Chinese I

CHIN 1020 - First Year Chinese II

CHIN 1101 - First-Year Seminar

CHIN 2030 -

Second Year Chinese I

CHIN 2040 - Second Year Chinese II

CHIN 2041 - Contemporary and Traditional Chinese Culture

CHIN 3050 - Intermediate Composition and Conversation

CHIN 3055 - Business Chinese

CHIN 3065 - Intermediate

Composition and Conversation II

CHIN 3160 - See Movies, Touch China

CHIN 4070 - Business Chinese II

Civil Engineering

CE 1000 - Exploring CAECM

CE 1010 - Civil Engineering Tools

CE 2070 - Engineering

Surveying

CE 3110 - Professional Practice

CE 3200 - Structural Analysis I

CE 3210 - Civil Engineering Materials

CE 3300 - Hydraulic Engineering

CE 3400 - Introduction to Environmental Engineering

CE 3500 - Transp

ortation Engineering

CE 3600 - Soil Mechanics I

CE 3890 - Engineering Honors Program Research Methods

CE 4010 - Civil Engineering Design

CE 4200 - Structural Analysis II

CE 4250 - Structural Steel Design

CE 4260 - Structural Concrete Design

CE 4265 - Prestressed Concrete Design

CE 4285 - Masonry Design

CE 4295 - Structural Timber Design

CE 4400 - Design of Water Treatment Facilities

CE 4410 - Design of Wastew

ater Treatment Facilities

CE 4430 - Green Chemistry and Global Environmental Problems

CE 4441 - Solid Waste Engineering

CE 4470 - Water for Energy

CE 4480 - Carbon Capture and Storage

CE 4510 - Pavement Design for Airport

s and Highwa ys

CE 4530 - Traffic Engine ering: Operati ons

CE 4555 - Geomet ric Design of Highwa ys

CE 4565 - Traffic Simulat ion

CE 4580 - Honors Underg raduate Resear ch

CE 4610 - Founda tion Engine ering

CE 4620 -

Soil and Rock Slope Engineering

CE 4630 - Ground Improvement, Reinforcement and Treatment

CE 4650 - Hydrology Field Methods

CE 4695 - Undergraduate Research

CE 4800 - Hydrology

CE 4810 - Groundwater Hydrology

CE 4840 - Groundwater Contamination

CE 4870 - Water Resource Engineering

CE 4900 - Comprehensive Design Experience

CE 4920 - Senior Civil Engineering Problems

CE 4959 - Enrichment Studies

CE 4965 - Undergraduate Research

CE 4970 - Wyoming DOT Design Squad Cooperative Experience

CE 4975 - Civil and Architectural Engineering Internship

CE 5010 - Advanced Mechanics of Materials

CE 5040 - Introduction to Finite Element Analysis

CE 5045 - Advanc

ed Finite Element Analysis

CE 5200 - Advanced Structural Analysis

CE 5220 - Structural Dynamics

CE 5230 - Advanced Materials

CE 5240 - Structural Systems Design

CE 5255 - Advanced Steel Design

CE 5265 - Prestressed Concrete Design

CE 5270 - Highway Bridge Engineering

CE 5280 - Behavior of Reinforced Concrete

CE 5285 - Masonry Design

CE 5290 - Earthquake Engineering

CE 5295 - Structural Timber Design

CE 5300 - Open-Channel Hydraulics

CE 5321 - Engineering and Environment Geophysics

CE 5400 - Water Treatment

CE 5410 - Advanced Biological Wastewater Treatment

CE 5430 - Environmental Engineering Chem

CE 5435 - Environmental Transport Processes

CE 5445 - Environmental Remediation

CE 5450 - Advanced Physical-Chemical Treatment

CE 5470 - Water for Energy

CE 5480 - Carbon Capture and Storage

CE 5510 - Pavement

Design for Airports and Highways

CE 5530 - Traffic Engineering: Operations

CE 5535 - Traffic Flow Engineering

CE 5540 - Traffic Control

CE 5545 - Transport Network Analysis

CE 5555 - Geometric Design of Highways

CE 5560 - Traffic Safety

CE 5565 - Traffic Simulation

CE 5570 - Transportation Planning

CE 5575 - Intelligent Transportation Systems

CE 5585 - Pavement Management Systems

CE 5590 - Pavement Materials

CE 5610 - Foundation Engineering

CE 5630 - Ground Improvement, Reinforcement and Treatment

CE 5640 - Geotechnical Earthquake Engineering

CE 5650 - Hydrology Field Methods

CE 5660 - Soil and Rock Slope Engineering

CE 5670 - Rock Mechanics & Rock Engineering

CE 5700 - Civil Engineering Problems I

CE 5710 - Civil Engineering Seminar I

CE 5720 - Civil Engineering Problems II

CE 5730 - Civil Engineering Seminar II

CE 5785 - HT

Person Seminar

CE 5800 - Hydrology

CE 5810 - Groundwater Hydrology

CE 5820 - Design of Small Earth Dams

CE 5830 - Vadose Zone Hydrology

CE 5840 - Groundwater Contamination

CE 5850 - Advanced Subsurface

Hydrology

CE 5865 - Deterministic Hydrology

CE 5870 - Water Resource Engineering

CE 5875 - Probalistic Hydrology

CE 5880 - Advanced Hydrology

CE 5885 - Hydrometeorology

CE 5920 - Continuing Registration:

On Campus

CE 5940 - Continuing Registration: Off Campus

CE 5959 - Enrichment Studies

CE 5960 - Thesis Research

CE 5980 - Dissertation Research

Classics

CLAS 2020 - Classical Greek Civilization

CLAS 2040 - Classical Roman Civilization

CLAS 3050 - Athenian Democracy

CLAS 3160 - "What Killed Socrates?"

CLAS 4230 - Greek Tragedy

CLAS 4270 - Classical Epic Poetry

CLAS 4975 - Independent Study

CLAS 4990 - Topics in

Classical Civilization

Communication and Journalism

COJO 3000 - History of American Journalism

COJO 3010 - Business and Professional Communication

COJO 3040 - Advanced Communication Theory

COJO 3070 - Commu

nicatio n Resear ch

COJO 3100 - Public Affairs Reporti ng

COJO 3160 - Theory of Langua ge and Society

COJO 3190 - Cross-Cultural Commu nicatio n

COJO 3195 - Cultural Encoun ters in China

COJO 3200 - Graphic s of Commu nicatio n

COJO 3300 - Advertising in the Media

COJO 3310 - Public Relations

COJO 3480 - Internship

COJO 3520 - Communication Technology and Society

COJO 3530 - Multimedia Production

COJO 3550 - Political Communication

COJO 3900 - Family Communication

COJO 4020 - Mass Media and Society

COJO 4030 - Advanced Interpersonal Communication

COJO 4040 - Digital Video Production

COJO 4050 - Communication and Conflict

COJO 4061 - Rhetorical Theory and

Criticism

COJO 4065 - Black American Rhetorics

COJO 4066 - Rhetorics of Social Justice

COJO 4067 - Race, Gender, Media, and Rhetoric

COJO 4100 - Investigative Reporting

COJO 4110 - Feature Writing Seminar

COJO 4120 -

News Editing

COJO 4140 - Nonverbal Communication Studies

COJO 4160 - African American Rhetoric

COJO 4200 - Visual Communication

COJO 4210 - Special Topics in Communication

COJO 4230 - Special Topics in Mass Media

COJO 4233 - Race, Gender, Ethnicity in the Media

COJO 4250 - Advanced Organizational Communication

COJO 4260 - Rhetoric and Social Justice

COJO 4270 - Documentaries

COJO 4310 - Public Relations Techniques

COJO 4400 - Photojournalism

COJO 4500 - Mass Communication Law

COJO 4530 - Web Design

COJO 4600 - Mass Media Ethics

COJO 4620 - Intergroup Communication

COJO 4640 - Communication Apprehension/ Competence

COJO 4700 - Media, Science, and Society

COJO 4990 - Independent Study in Communication

COJO 5010 - Texts of Mass Media

COJO 5030 - Seminar in Interpersonal Communication

COJO 5040 - Digital Video Production

COJO 5061 - Rhetorical Theory and Criticism

COJO 5065 -

Black American Rhetorics

COJO 5066 - Rhetorics of Social Justice

COJO 5067 - Race, Gender, Media, and Rhetoric

COJO 5070 - Quantitative Research Methods

COJO 5080 - Qualitative Research Methods

COJO 5140 - Nonverbal

Communication Studies

COJO 5160 - African American Rhetoric

COJO 5200 - Visual Communication

COJO 5210 - Special Topics in Communication

COJO 5230 - Special Topics in Mass Media

COJO 5233 - Race, Gender, Ethnicity in the Media

COJO 5250 - Seminar in Organizational Communication

COJO 5260 - Rhetoric and Social Justice

COJO 5270 - Documentaries

COJO 5310 - Seminar in Mass Communications

COJO 5530 - Web Design

COJO 5540 - Seminar in Communicatio

n Theory

COJO 5600 - Mass Media Ethics

COJO 5620 - Intergroup Communication

COJO 5640 - Communication Apprehension/ Competence

COJO 5700 - Media, Science, and Society

COJO 5800 - Foundations of Communication and Journalism

COJO 5890 - Problems: Communication

COJO 5900 - Practicum in College Teaching

COJO 5920 - Continuing Registration: On Campus

COJO 5940 - Continuing Registration: Off Campus

COJO 5959 - Enrichment Studies

COJO 5960 -

Thesis Research

COJO 5961 - Graduate Projects

COJO 5990 - Internship

COMM 1000 - Intro to Mass Media

COMM 1030 - Interpersonal Communication

COMM 1040 - Intro to Communication Theory

COMM 1101 - First-Year Seminar

COMM 2010 - Public Speaking

COMM 2095 - Persuasive Argumentation

COMM 2099 - Special Topics in Debate

COMM 2100 - Media Writing

COMM 2400 - Introduction to Photography

Computer Science

COSC 1010 - Computational Thinking and

Programming

COSC 1015 - Introduction to Programming for Data Science

COSC 1030 - Computer Programming

COSC 1100 - Computer Science Principles and Practice

COSC 1101 - First-Year Seminar

COSC 1200 - Computer Information Systems

COSC 2000 - Undergraduate Topics: Computer Science

COSC 2030 - Data Structures

COSC 2150 - Computer Organization

COSC 2300 - Discrete Structures

COSC 3011 - Introduction to Software Design

COSC 3015 - Functional Programming

COSC 3020 - Algorithm Design and Analysis

COSC 3050 - Ethics for the Computer Professional

COSC 3100 - Computer Science Education Seminar

COSC 3340 - Introduction to Scientific Computing

COSC 3750 - Linux Programming for System

Applications

COSC 3765 - Computer Security

COSC 3890 - Engineering Honors Program Research Methods

COSC 3900 - Upper Division Topics in Computer Science

COSC 3970 - Internship in Computing

COSC 4000 - Topics in

Computer Science for Educators

COSC 4010 - Special Topics in Computer Science

COSC 4014 - Blockchain Design and Programming

COSC 4100 - Foundations of Computing

COSC 4200 - Computability and Complexity

COSC 4210 - Web Applica

tion Develo pment

COSC 4220 - Design and Implem entatio n in Emergi ng Environ ments

COSC 4340 - Numeri cal Method s for Ordinar y and Partial Differen tial Equatio ns

COSC 4420 - Advanc ed Logic

COSC 4450 - Comput er Graphic s

COSC 4470 - Virtual and Augmented Reality Systems

COSC 4480 - Computer Animation Programming

COSC 4490 - UI/UX Design

COSC 4550 - Introduction to Artificial Intelligence

COSC 4552 - Advanced Topics in AI

COSC 4555 - Machine

Learning

COSC 4557 - Practical Machine Learning

COSC 4560 - Modern Robots and Softbots

COSC 4570 - Data Mining

COSC 4580 - Honors Undergraduate Research

COSC 4730 - Mobile Programming

COSC 4735 - Advanced Mobile

Programming

COSC 4740 - Operating Systems Design

COSC 4750 - Systems Programming and Management

COSC 4760 - Computer Networks

COSC 4765 - Computer Security

COSC 4780 - Principles of Programming Languages

COSC 4785 - Compiler Construction

COSC 4820 - Database Systems

COSC 4840 - Software Engineering

COSC 4950 - Senior Design I

COSC 4955 - Senior Design II

COSC 5000 - Seminar in Computer Science

COSC 5010 - Gradua

te Topics in Computer Science

COSC 5014 - Blockchain Design and Programming

COSC 5050 - Research Writing in Computer Science

COSC 5110 - Analysis Of Algorithms

COSC 5120 - Theory Of Computation

COSC 5200 - Computational

Complexity

COSC 5220 - Languages and Automata

COSC 5310 - Computational Methods in Applied Sciences I

COSC 5345 - Computational Methods in Applied Sciences III

COSC 5420 - Advanced Logic

COSC 5450 - Computer Graphics

COSC 5470 - Virtual and Augmented Reality Systems

COSC 5480 - Computer Animation Programming

COSC 5490 - UI/UX Design

COSC 5540 - Computer Vision

COSC 5550 - Introduction to Artificial Intelligence

COSC 5552 - Advanced

Topics in AI

COSC 5555 - Machine Learning

COSC 5557 - Practical Machine Learning

COSC 5560 - Modern Robots and Softbots

COSC 5730 - Mobile Application Programming

COSC 5735 - Advanced Mobile Programming

COSC 5750 - Distributed Computing Systems

COSC 5785 - Compiler Construction I

COSC 5790 - Compiler Construction II

COSC 5820 - Database Systems

COSC 5825 - Advance Data Systems

COSC 5920 - Continuing Registration:

On Campus

COSC 5940 - Continuing Registration: Off Campus

COSC 5959 - Enrichment Studies

COSC 5960 - Thesis Research

COSC 5980 - Dissertation Research

COSC 5990 - Internship

Construction Mana

geme
nt

CM 1000 - Exploring CAECM

CM 2000 - Introduction to Construction Management

CM 2120 - Construction Materials and Methods

CM 2200 - Construction Documents

CM 2300 - Construction Safety

CM 2400 - MEP

Systems

CM 3100 - Construction Scheduling

CM 3140 - Built Environment Markets

CM 3160 - Construction Law & Contracts

CM 3180 - Evolving Technologies in CM

CM 3200 - Statics & Structural Systems

CM 3210 -

Construction Estimating

CM 3220 - Soils & Concrete

CM 3230 - Construction Economics

CM 4100 - Project Management

CM 4140 - Heavy CM Methods

CM 4600 - Building Info. Modeling

CM 4900 - Capstone Project

CM 4970 - CM Junior Internship

CM 4971 - CM Senior Internship

Counseling

CNSL 1000 - Relationship Skills: Counseling in Action

CNSL 1101 - First-Year Seminar

CNSL 2200 - Introduction to Student Leadership

CNSL 2300 - Counse

ling Skills for the Helping Professions

CNSL 3010 - Student Leadership Strategies

CNSL 4520 - Fundamentals of Counseling (B)

CNSL 4620 - Organization and Administration in Student Affairs

CNSL 5020 - Workshop

CNSL 5030 - Short Course

CNSL 5040 - Relationship Skills

CNSL 5060 - Counseling Ethics and Professional Issues

CNSL 5110 - Group Procedures

CNSL 5120 - School Counseling

CNSL 5125 - School Counseling II

CNSL 5130 - Mental Health Counseling

CNSL 5140 - Counse

ling & Addictions

CNSL 5150 - Mental Health Counseling II

CNSL 5170 - Counseling and Career Across the Lifespan

CNSL 5175 - Human Growth and Development

CNSL 5180 - Assessment in CNSL

CNSL 5200 - Couple and Family Theory

CNSL 5210 - Group Experience

CNSL 5310 - Pre-Practicum

CNSL 5320 - Practicum

CNSL 5330 - Counseling Children and Adolescents

CNSL 5340 - Play Therapy

CNSL 5341 - Play Therapy Theories & Skills

CNSL 5342 - Expres

sive Arts & Play Therap y

CNSL 5343 - Filial and Family Play Therap y

CNSL 5350 - Multicul tural Counse ling

CNSL 5510 - Trends and Issues

CNSL 5520 - Funda mentals of Counse ling

CNSL 5580 - Supervi sed Interns hip

CNSL 5610 - Advanced Practice in Group and Family Counseling

CNSL 5630 - Trauma - Informed Counseling

CNSL 5640 - Diagnosis, Psychopathology, and Psychopharmacology

CNSL 5650 - Counseling Theories

CNSL 5860 - Doctoral Practic

um in Counselor Education

CNSL 5865 - Supervision Theory

CNSL 5870 - Seminar

CNSL 5871 - Doctoral Seminar I: Professional Identity and Ethics

CNSL 5872 - Doctoral Seminar II: Diversity and Social Change

CNSL 5873 - Doctoral

Seminar III: Research, Assessment & Scholarship

CNSL 5874 - Doctoral Seminar IV: Leadership, Consultation and Advocacy

CNSL 5875 - Doctoral Practicum in Supervision

CNSL 5880 - Special Problems

CNSL 5959 - Enrichment Studies

Creative Writing

CW 1040 - Intellectual Community: Introduction to Creative Writing

CW 1101 - First-Year Seminar

CW 2050 - Introduction to Fiction

CW 2060 - Introduction to Nonfiction

CW 2070 - Creative Autobiographic

al Writing

CW 2080 - Introduction to Poetry

CW 2125 - Special Topics in Writing

CW 2200 - Creativity in the 21st Century

CW 3125 - Studies in _____

CW 4050 - Writer's Workshop

CW 5540 - Seminar in Creative Writing

CW 5550 - Independent Study in Creative Writing

CW 5560 - Graduate Writing Workshop

CW 5960 - Thesis Research

CW 5990 - M.F.A. Internship

Criminal Justice

CRMJ 1001 - Introduction to Criminal Justice

CRMJ 2210 - Criminal Law

CRMJ 2400 - Criminology

CRMJ 2465 - Research Methods

CRMJ 3110 - Criminal Courts and Processes

CRMJ 3250 - Juvenile Delinquency

CRMJ 3350 - Correctional Theory and Practice

CRMJ 3400 - Deviant

Behavior

CRMJ 3490 - Issues in Policing

CRMJ 3500 - Drugs and the Criminal Justice System

CRMJ 4007 - Crime and Exercise in Scotland: Exploring the Relationship between Physical Fitness, Crime, and Public Spaces

CRMJ 4110 - Constit

utional Law: Civil Libertie s and Rights

CRMJ 4130 - Leader ship and Manage ment in the Crimina l Justice System

CRMJ 4140 - Crimina l Legal Proced ure

CRMJ 4150 - Commu nity-Based Correct ions

CRMJ 4151 - Crime Causati on

CRMJ 4200 - Ethics

in Administration of Justice

CRMJ 4230 - Forensic Anthropology

CRMJ 4260 - Gangs

CRMJ 4280 - Comparative Criminal Justice

CRMJ 4340 - Victimology

CRMJ 4350 - Sociology of Law

CRMJ 4370 - Criminal Psychopathology

CRMJ 4540 - Gender and Crime

CRMJ 4550 - Crime Prevention

CRMJ 4590 - Green Criminology

CRMJ 4600 - Political Violence

CRMJ 4705 - Terrorism

CRMJ 4730 - Psychology and Law

CRMJ 4750 - Criminal Justice Internship

CRMJ 4760 - Child Maltreatment

CRMJ 4860 - Social Inequality, Crime, Criminal Justice and the Law

CRMJ 4965 - Research Hours in Criminal Justice

CRMJ 4975 - Readings

CRMJ 4990 - Special Topics

CRMJ 5000 - Survey of Crimina

l Justice

CRMJ 5100 - Public Policy and Crime

CRMJ 5150 - Community-Based Corrections

CRMJ 5151 - Crime Causation

CRMJ 5280 - Comparative Criminal Justice

CRMJ 5500 - Internship in Criminal Justice

CRMJ 5540 - Gender

and Crime

CRMJ 5590 - Green Criminology

CRMJ 5860 - Social Inequality, Crime, Criminal Justice and the Law

CRMJ 5965 - Research Hours in Criminal Justice

CRMJ 5975 - Graduate Readings

CRMJ 5990 - Special Topics

Curriculum and Instruction

EDCI 4050 - Minority Sexual/ Gender Identity Issues in Education

EDCI 4120 - Literature for Young Adults

EDCI 4140 - Storytelling

EDCI 4160 - Recent Trends in Children's and Young Adult Literature

EDCI 4300 - Clinical Assessment and Instruction

EDCI 4330 - Advanced Diagnosis, Corrective Reading Instruction

EDCI 4350 - Introduction to Second Language Acquisition

EDCI 4390 - Literature and Reading/Writing Instruction

EDCI 4450 -

Issues In Multicultural Education

EDCI 4665 - History and Philosophy of American Education

EDCI 4761 - Linguistics, Sociolinguistics, and Social Literacies for Teachers

EDCI 4762 - Essential Sociolinguistics for English as a Second Langauge Learnin

g and Teachin g

EDCI 5000 - Principl es of Curricu lum

EDCI 5010 - Supervi sion of the School Music Progra m

EDCI 5020 - Curricu lum Worksh op

EDCI 5050 - Minorit y Sexual/ Gender Identity Issues in Educati on

EDCI 5070 - Educati

onal Trends

EDCI 5090 - Plan B Research

EDCI 5110 - Foundations of American Indian Education

EDCI 5120 - Literature For Young Adults

EDCI 5121 - History and Philosophy of American Indian Education

EDCI 5130 - Cultural Foundations of Americ

an Indian Education

EDCI 5140 - Storytelling

EDCI 5141 - Instructional Methods in American Indian Education

EDCI 5160 - Recent Trends in Children's and Young Adult Literature

EDCI 5205 - Methods of Teaching Middle-Level Mathematics

EDCI 5215 - Using Instructional Technology for Middle-Level Mathematics

EDCI 5225 - Assessment for Middle-Level Mathematics

EDCI 5250 - Advanced Topics in Pedagogy

EDCI 5310 - Reading Comprehension Processes and Instruction

EDCI 5320 - Writing Instruction K-5

EDCI 5350 - Introduction to Second Language Acquisition

EDCI 5360 - History of Lit Res & Instruction

EDCI 5365 - Trends in Literacy Research

EDCI 5370 - Writing Instruction 6-12

EDCI 5380 - Literacy

Leadership

EDCI 5390 - Literature and Reading/Writing Instruction

EDCI 5400 - Midpoint Portfolio Reflection

EDCI 5430 - Theory and Methods of ESL I

EDCI 5440 - Theory and Methods of ESL II

EDCI 5450 - Issues in Multicultural

Education

EDCI 5480 - Short Course

EDCI 5490 - Individual Problems

EDCI 5500 - Classroom Assessment

EDCI 5515 - National Board Certification Seminar

EDCI 5550 - The Art and Science of Teaching

EDCI 5551 - Practicum

Graduate Certificate

EDCI 5560 - Seminar in Assessment

EDCI 5580 - Internship

EDCI 5600 - Diversity in Education

EDCI 5665 - History and Philosophy of American Education

EDCI 5710 - Genre-based, Discipline-based Literacies

EDCI 5720 - Literacy Difficulties: Assessment and Instruction

EDCI 5730 - Learning and Cognition

EDCI 5750 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part I

EDCI 5755 - Research in Literacy Learnin

g, Teaching, and Assessment in Classrooms, Grades K-5, Part II

EDCI 5760 - Social Linguistics Literacies

EDCI 5770 - Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part I (6-12)

EDCI 5775 - Research in Literacy Learning,

Teaching, and Assessment in Classrooms, Part II (6-12)

EDCI 5790 - Learning Theories and Instructional Principles

EDCI 5800 - Curriculum Development

EDCI 5810 - Writing for Professional Publications

EDCI 5870 - Seminar

EDCI 5880 - Special

Problems

EDCI 5890 - Directed Professional Study

EDCI 5900 - Practicum in College Teaching

EDCI 5920 - Continuing Registration: On Campus

EDCI 5940 - Continuing Registration: Off Campus

EDCI 5959 - Enrichment Studies

EDCI 5960 - Thesis Research

EDCI 5980 - Dissertation Research

EDCI 5990 - Internship

Decision Sciences

DSCI 2100 - Introduction to Operations and Supply Chain Management

DSCI 4230 - Purchasing and Supply Management

DSCI 4240 - Computer Applications in Decision Sciences

DSCI 4250 - Revenue Management

DSCI 4260 - Project Management

DSCI 4270 - Logistics

DSCI 4280 - Supply Chain Management

DSCI 4900 - Independent Study in Decisio

n Science

DSCI 4910 - Topics in Decision Science

DSCI 5890 - Advanced Problems in Decision Science

Dental Hygiene

DHYG 3230 - Clinical Seminar II

DHYG 3250 - Clinical Seminar III

DHYG 3300 - Clinical Dental

Hygiene II

DHYG 3350 - Clinical Dental Hygiene III

DHYG 3400 - General and Oral Pathology

DHYG 3550 - Community Dental Health

DHYG 3600 - Ethics and Law in Dental Hygiene

DHYG 3720 - Office Practice

DHYG 3750 - Periodontology

DHYG 3770 - Pain Management

DHYG 3775 - Pain Management Lab

DHYG 3800 - Board Review

DHYG 4850 - Education Practicum in Dental Hygiene

Early Childhood Education

EDEC 1020 - Introduction to Early Childhood Education

EDEC 1101 - First-Year Seminar

EDEC 2000 - Engaging Families in Early Childhood Settings

EDEC 2275 - Literature for Young Children

EDEC 3000 - Observing Young Children

EDEC 3220 - Curriculum and Learning Environments

in Early Childhood Education

EDEC 4209 - Early Literacy Methods

EDEC 4320 - Oral and Written Language Acquisition

EDEC 4350 - Health Management Issues in Early Education

EDEC 4580 - Internship in Early Childhood/Early Childhood

Special Education

EDEC 5220 - Children with Disabilities

EDEC 5230 - Curriculum and Materials for Young Children with Disabilities

EDEC 5240 - Evaluation of Young Children with Disabilities

EDEC 5250 - Legal Issues in Early Childhood Special Education

EDEC 5580 - Internship in Early Childhood/Early Childhood Special Education

Ecology

ECOL 5050 - Techniques in Environmental Data Management

ECOL 5060 - Advanced Concepts in Evolution

ECOL 5100 - Ecology as a Discipline

ECOL 5400 - Community Ecology

ECOL 5500 - Quantitative Analyses of Field Data

ECOL 5520 - Habitat Selection

ECOL 5540 - Microbial Diversity and Ecology

ECOL 5550 - Ecology as a Scientific Profession

ECOL 5580 - Rangeland

Restoration Ecology

ECOL 5610 - Quantitative Modeling in Landscape Ecology

ECOL 5620 - Advanced Topics in Ecology

ECOL 5650 - Tropical Field Ecology Ecuador

ECOL 5680 - Landscape Genetics

ECOL 5775 - Forest

Ecology

ECOL 5780 - Research in Ecology

ECOL 5920 - Continuing Registration: On Campus

ECOL 5940 - Continuing Registration: Off Campu

ECOL 5980 - Dissertation Research

Economics

ECON 1000 - Global Econo

mic Issues

ECON 1010 - Principles of Macroeconomics

ECON 1020 - Principles of Microeconomics

ECON 1101 - First-Year Seminar: Viking Economics

ECON 1200 - Economics, Law and Government

ECON 1300 - Oil: Business, Culture,

and Power

ECON 1400 - Sports Economics

ECON 2100 - Introduction to Money and Banking

ECON 2190 - High Country Economics

ECON 2400 - Economics of the Environment

ECON 2450 - The Impact of the Union Pacific on Wyomi

ng History

ECON 2490 - Topics in Economics

ECON 3010 - Intermediate Macroeconomics

ECON 3020 - Intermediate Microeconomics

ECON 3400 - Energy Markets & Policy

ECON 3900 - Economics Internship/Research

ECON 4000 -

**Confere
nce**

**ECON
4030 -
Manage
rial
Econo
mics**

**ECON
4115 -
Time
Series
Analysi
s**

**ECON
4230 -
Interme
diate
Econo
metric
Theory**

**ECON
4240 -
Evoluti
on of
Econo
mic
Ideas**

**ECON
4350 -
Game
Theory**

**ECON
4360 -
Semina
r in
Econo
mics**

ECON 4390 - Mathematical Economics

ECON 4400 - Environmental Economics

ECON 4410 - Natural Resource Economics

ECON 4420 - Seminar: Economics for ENR

ECON 4430 - Energy Economics

ECON 4450 - Monetary Theory

ECON 4460 -

Resource Rich Economies

ECON 4520 - Public Economics

ECON 4530 - Computational Economics

ECON 4700 - Economic Development

ECON 4710 - Why Economies Succeed and Fail

ECON 4720 - International Trade

ECON 4730 - Advanced

Regional Analysis

ECON 4740 - International Economics and Policy

ECON 4800 - Labor Economics

ECON 4820 - Industrial Organization and Public Policy

ECON 4840 - Public Utility Economics

ECON 4900 - Ind. Study in Economics

ECON 4910 - Topics in Economics

ECON 5010 - Advanced Macroeconomic Analysis

ECON 5020 - Advanced Microeconomic Analysis

ECON 5110 - Advanced Topics in Economic Theory

ECON 5115 - Time Series Analysis and Forecasting

ECON 5120 - Advanced Analysis II- Microeconomics

ECON 5130 - Dynamic Optimization

ECON 5230 - Intermediate Econometric Theory

ECON 5300 - Game Theory

ECON 5310 - Research Methods

ECON 5330 - Advanced Mathematical

Econo mics

ECON 5340 - Applied Econo metrics

ECON 5350 - Advanc ed Econo metrics Theory I

ECON 5360 - Advanc ed Econo metrics Theory II

ECON 5370 - Advanc ed Econo metric Theory III

ECON 5380 - Experi mental Method s in Econo mics

ECON 5390 - Math Microeconomics

ECON 5400 - Advanced Resource and Environmental Economics

ECON 5410 - Seminar in Advanced Resource and Environmental Economics

ECON 5520 - Advanced Public Economics

ECON 5530 - Computational

Economics

ECON 5640 - Financial Economics I

ECON 5650 - Financial Economics II

ECON 5700 - Advanced Economic Development

ECON 5720 - Advanced International Economics

ECON 5730 - Advanced Regional Analysis

ECON 5820 - Advanced Industrial Organization and Public Policy

ECON 5830 - Empirical Industrial Organization

ECON 5890 - Seminar in Advanced Economics

ECON 5900 - Practicum in College Teaching

ECON 5920 - Continuing Registration:

On Campus

ECON 5940 - Continuing Registration: Off Campus

ECON 5959 - Enrichment Studies

ECON 5960 - Thesis Research

ECON 5990 - Internship

Ecosystem Science and Management

ESM 4990 - Topics

ESM 5995 - Topics

RNEW 4130 - Applied Remote Sensing

Educational Leadership

EDAD 1000 - Schools and Democracy

EDAD 5010 - Leadership for Curriculum Development

EDAD 5020 - Leadership for School

**Organiz
ation**

**EDAD
5030 -
Leader
ship for
School
and
Commu
nity
Relatio
ns**

**EDAD
5040 -
Leader
ship for
Instruct
ion**

**EDAD
5050 -
Leader
ship for
Democr
atic
School
s**

**EDAD
5060 -
Capsto
ne in
Educati
onal
Leader
ship**

**EDAD
5080 -
Introdu
ction to**

School Law

EDAD 5150 - Assessment, Accountability, and Student Learning

EDAD 5580 - Supervised Internship in Educational Administration

EDAD 5600 - Educational Leader as Manager of Human Resources

EDAD 5650 - Educational Leader as

Communicator

EDAD 5700 - Educational Leader For Instruction

EDAD 5720 - Educational Leader as Change Agent

EDAD 5750 - Educational Leader for the Board and Community

EDAD 5800 - Educational Leader as Resource Manager

EDAD 5815 - Advanced School Law

EDAD 5850 - Educational Leader as Direction Setter

EDAD 5870 - Seminar in Legal Issues

EDAD 5959 - Enrichment Studies

Educational Research

EDRE 5000 - Educational Research

EDRE 5530 - Introduction To Research

EDRE 5550 - Action Research

EDRE 5580 - Supervised Internship

EDRE 5600 - Introduction to Quantitative Research

EDRE 5610 - Educational Research: Group Comparison Research

EDRE 5620 -

Correlational Research

EDRE 5630 - Educational Research IV: Multivariate Research

EDRE 5640 - Introduction to Qualitative Research

EDRE 5645 - Phenomenology, Case Study, and Grounded Theory in Qualitative Research

EDRE 5655 -

Ethnography and Narrative Inquiry in Qualitative Research

EDRE 5660 - Dissertation/Thesis Prospectus Writing

EDRE 5670 - Mixed Methods Research

EDRE 5870 - Seminar

EDRE 5890 - Directed Professional Study

EDRE 5959 -

Enrichment Studies

Educational Studies

EDST 1101 - First-Year Seminar: So You Want to be a Superhero? Exploring the Teaching Profession

EDST 1200 - Practicum I

EDST 2200 - Practicum 2

EDST 2250 - Educational

Assess ment

EDST 2450 - Founda tions of Develo pment and Learnin g

EDST 2475 - Indepe ndent Studies

EDST 3100 - Teache r as Practiti oner

EDST 3101 - Practic um 3

EDST 3200 - Founda tions of ESL Learnin g

EDST 3480 - Diversit y & the Politics

of Schooling

EDST 3550 - Educational Assessment

EDST 3600 - Preparing Teaching Abroad

EDST 4000 - Foundations of Education for a Diverse Society

EMAT 5800 - Culture, Power, and Identity in Mathematics Education

Electrical Engin

eering

EE 1010 - Introduction to Electrical and Computer Engineering

EE 1101 - First-Year Seminar

EE 2150 - Computer Organization

EE 2220 - Circuits and Signals

EE 2390 - Digital Systems Design

EE 3150 - Electro

magnetics

EE 3220 - Signals And Systems

EE 3311 - Electronics I

EE 3312 - Electronics I Laboratory

EE 3331 - Electronics II

EE 3332 - Electronics II Laboratory

EE 3510 - Electric Machines and Power Systems

EE 3890 - Engineering Honors Program Research Methods

EE 4075 - C++ with Numerical Methods for Engineers

EE 4220 - Probabilistic Signals and Systems

EE 4245 - Digital Signal Processing

EE 4250 - Network

Synthesis

EE 4300 - Microwave and RF Circuits

EE 4330 - Electronic Systems Design

EE 4340 - Semiconductor Materials and Devices

EE 4345 - Hardware Digital Signal Processing

EE 4360 - VLSI Design

EE 4390 - Micropr

ocessors

EE 4440 - Communication Theory

EE 4490 - Hardware Descriptive Language (HDL) Digital Design

EE 4510 - Power Systems

EE 4590 - Real Time Embedded Systems

EE 4620 - Automatic Control Systems

EE 4621 - Honors Automatic Control Systems

EE 4800 - Problems in _____

EE 4820 - Senior Design I

EE 4830 - Senior Design II

EE 4870 - Computer Network Hardware

EE 4990 - Advanced Microprocessors

EE 5210 - Systems Theory

EE 5300 - Microwave and RF Circuits

EE 5330 - Advanced Electronic Systems Design

EE 5340 - Advanced Semiconductor Material and Devices

EE 5350 - Optoelectronic Semiconductor Materials and Devices

EE 5360 - Digital VLSI Design

EE 5390 - Computer Architecture

EE 5400 - Introduction To Robotics

EE 5410 - Neural and Fuzzy Systems

EE 5430 - 3-D Computer Vision

EE 5440 - Geometric/Deep Computer Vision

EE 5450 - Topics in Robotics

EE 5460 - Probabilistic Robotics

EE 5490 - Convex Optimization

EE 5590 - Real Time Embedded Systems

EE 5600 - Statistical Signal Processing in:

EE 5610 - Random Processing

Theory I

EE 5620 - Digital Image Processing

EE 5625 - Spectral Analysis

EE 5630 - Advanced Image Processing

EE 5640 - Adaptive Filters and Signal Processing

EE 5650 - Object and Pattern Recognition

EE 5660 - System Identification

EE 5670 - Digital Image Formation

EE 5700 - Power Engineering

EE 5710 - Electric Power Quality

EE 5740 - Digital Control Systems

EE 5770 - Non Linear Systems

EE 5880 - Problems In Electric

al Engine ering

EE 5885 - Special Topics in Electric al Engine ering

EE 5890 - Reliabil ity of Engine ering System s

EE 5900 - Practic um in College Teachin g

EE 5920 - Continu ing Registr ation: On Campu s

EE 5940 - Continu

ing Registration: Off Campus

EE 5959 - Enrichment Studies:

EE 5960 - Thesis Research

EE 5980 - Dissertation Research

EE 5990 - Internship

Elementary Education

EDEL 1200 - Introduction to Elementary

Education

EDEL 1430 - Life Science in the Elementary School

EDEL 2100 - Engaging Family and Community in Schools

EDEL 2140 - Teaching Literacy in the Elementary School

EDEL 2170 - Art in the Elementary School

EDEL 2280 - Literatu

re for Childre n

EDEL 3140 - Teachin g Readin g in the Elemen tary School

EDEL 3710 - Discipli nary/Ge nre-Based Literac y

EDEL 3720 - Literac y Difficult ies

EDEL 3724 - Elemen tary Science Educati on

EDEL 4000 - Becomi ng a Reflecti ve

Practitioner: Practicum

EDEL 4109 - Elementary Humanities Education

EDEL 4309 - Upper Elementary Literacy Education

EDEL 4409 - Elementary Math/ Science Education

EDEL 4410 - Elementary Mathematics Educ

EDEL 4500 - Reside

ncy in Teaching

EDEL 4740 - Field Studies in (TOPIC)

EDEL 4975 - Independent Study

Engineering Science

ES 1000 - Orientation to Engineering Study

ES 1002 - Introduction to Engineering Information Literacy

ES 1060 - Introduction to Engineering Problem Solving

ES 1061 - Engineering Problem Solving with Spreadsheets

ES 1062 - Introduction to Structured Programming

ES 1063 - Graphical Communication and Solid Modeling

ES 1101 - First-

Year Seminar

ES 2110 - Statics

ES 2120 - Dynamics

ES 2210 - Electric Circuit Analysis

ES 2215 - Electric Circuit Analysis Lecture

ES 2216 - Electric Circuit Analysis Laboratory

ES 2280 - Physical Computing

ES 2310 - Thermodynamics I

ES 2330 - Fluid Dynamics

ES 2410 - Mechanics of Material I

ES 3001 - International Systems Engineering

ES 3010 - Culture and Engineering in Latin America

ES 3020 - Comparison of Entrepreneuria

l Ecosystems

ES 3100 - Internship Prepared

ES 3890 - Engineering Honors Program Research Methods

ES 4580 - Honors Undergraduate Research

ES 4910 - Survey of Engineering Management

ES 4920 - Entrepreneurs

hip for Engineers

ES 4970 - Engineering CO-OP

ES 5600 - Research Data Management

HYDR 5980 - Hydrologic Sciences

Energy Resources

ERS 1000 - Energy and Society

ERS 1101 - First-Year Seminar (Energy,

Environment and Economy)

ERS 1300 - Oil: Business, Culture, and Power

ERS 1310 - The Water-Energy-Climate Nexus

ERS 2010 - Introduction to Land Management

ERS 3000 - Energy Project Outreach and Communications

ERS 3010 - Air

Quality Management

ERS 3400 - Energy Markets & Policy

ERS 4010 - Exploration Geoscience

ERS 4050 - Solar Energy Conversion

ERS 4100 - Property I

ERS 4105 - Property II

ERS 4110 - Common Law and Contracts

ERS 4120 - Federal Public Land Law

ERS 4130 - Oil and Gas and the Law of Subsurface Property

ERS 4135 - Advanced Energy Law

ERS 4480 - Carbon Capture and Storage

ERS 4481 - Geological Carbon Sequestration

ERS 4482 - Global Climate

Governance

ERS 4502 - Energy Finance

ERS 4960 - Energy Field Studies

ERS 4965 - Undergraduate Research

ERS 4970 - Internship

ERS 4975 - Global Experience in Energy

ERS 4985 - Seminar

ERS 4990 - Topics in Energy Resour

ce Develo pment and Manage ment

ERS 5990 - Topics in Energy Resour ce Develo pment and Manage ment

Energ y Syste ms Engin eerin g

ESE 3005 - Engine ering Experi mentati on and Solid Modelin g

ESE 3020 - System

Dynamics

ESE 3040 - Thermodynamics II

ESE 3060 - Numerical Methods for Engineers

ESE 3160 - Thermal/Fluid Science Lab

ESE 3360 - Fundamentals of Transport Phenomena

ESE 4060 - Energy Systems Design I

ESE 4070 - Energy Systems Design II

ESE 4455 - Combustion Engineering

ESE 4460 - Solar and Geothermal Engineering

ESE 4461 - Computational Fluid Dynamics I

ESE 4470 - Wind and Ocean Energy Engineering

ESE 4474 - Topics

in Energy Systems Engineering

ESE 4580 - Honors Undergraduate Research

English

ENGL 1010 - College Composition and Rhetoric

ENGL 1030 - Intellectual Community in Cinema Etc

ENGL 1080 - Introduction to Women's Studies

ENGL 1101 - First-Year Seminar

ENGL 2005 - Writing in Technology and the Sciences

ENGL 2015 - College Composition and Rhetoric II: College and Career

ENGL 2020 - Literature, Media and Culture

ENGL 2025 - Introduction to English Studies

ENGL 2035 - Writing for Public Forums

ENGL 2125 - Writing Tutor Pedagogy/Practicum

ENGL 2170 - The Bible as Literature

ENGL 2190 - African Literature

ENGL 2240 - Arthurian Legend

ENGL 2340 - Native American Culture and Literature

ENGL 2345 - American Indians in Hollywood Film

ENGL 2350 - Introduction to African American Literature

ENGL 2360 - Mexican American Literature

ENGL 2370 - Blues and African American Lit

ENGL 2420 - Literary Genres:

ENGL 2425 -

Literatures in English I

ENGL 2430 - Literatures in English II

ENGL 2435 - Literatures in English III

ENGL 2440 - Rhetoric & Writing

ENGL 2490 - Studies in (TOPIC)

ENGL 3000 - Literary Theory

ENGL 3010 - Approaches to Rhetoric, Composition

Pedagogy, and Professional Writing

ENGL 3020 - Culture, Communication, Work

ENGL 3100 - Tribal Literatures of the Great Plains

ENGL 3150 - World Literature

ENGL 3200 - Topics in: Medieval Literature

ENGL 3300 - Topics in: Renaissance

Literature

ENGL 3330 - Global Shakespeare in Performance

ENGL 3340 - Philosophy in Literature

ENGL 3400 - Topics in: Eighteenth-Century Literature

ENGL 3500 - Topics in: Nineteenth-Century Literature

ENGL 3600 - Topics in: 20th Century

Literature

ENGL 3610 - Non-Western Women Writers

ENGL 3710 - Gender: Humanities Focus

ENGL 4000 - 21st Century Issues in Professional Writing

ENGL 4010 - Technical Writing in the Professions

ENGL 4020 - Editing for Publication

ENGL 4025 - Writing for the Web

ENGL 4030 - Writing for Magazines

ENGL 4040 - Rhetoric, Media, and Culture

ENGL 4061 - Rhetorical Theory and Criticism

ENGL 4065 - Black American Rhetorics

ENGL 4066 - Rhetorics of Social Justice

ENGL 4067 - Race, Gender, Media, and Rhetoric

ENGL 4070 - Film Directors:

ENGL 4075 - Writing for Non-Profits

ENGL 4080 - Film Genre Studies (TOPIC)

ENGL 4090 - Film and Religion

ENGL 4230 - Greek Tragedy

ENGL 4270 -

Classical Epic Poetry

ENGL 4450 - African American Novel

ENGL 4455 - Slavery and Freedom

ENGL 4460 - American Indian Literature

ENGL 4470 - Studies in Chicano Folklore

ENGL 4480 - Regional Literature of the US: The West

ENGL 4600 - Studies in (TOPIC)

ENGL 4610 - Special Studies Abroad in (TOPIC)

ENGL 4620 - Independent Reading in (TOPIC)

ENGL 4630 - English Honors Thesis

ENGL 4635 - English Department Honors

ENGL 4640 - Studies in Emerging Fields and

Approaches

ENGL 4780 - History of the English Language

ENGL 4785 - Linguistics, Language Teaching and Social Context

ENGL 4830 - Victorian Women's Lives: Their Art, Literature, and Culture

ENGL 4970 - Writing Internship

ENGL 4999 - Senior

Seminar

ENGL 5000 - Studies In:

ENGL 5010 - Rhetoric and Composition: History, Theory, Practice

ENGL 5020 - Public-Facing English Studies

ENGL 5050 - Writing in Public Genres

ENGL 5055 - Narrative and Storytelling

ENGL 5061 - Rhetorical

Theory and Criticism

ENGL 5062 - Ancient Rhetorics

ENGL 5063 - Feminist Rhetorics

ENGL 5065 - Black American Rhetorics

ENGL 5066 - Rhetorics of Social Justice

ENGL 5067 - Race, Gender, Media, and Rhetoric

ENGL 5070 -

Qualitative Methods in English

ENGL 5071 - Qualitative Analysis

ENGL 5072 - Topics in Technical Writing

ENGL 5073 - Topics in Rhet-Comp & Tech-Com

ENGL 5074 - Studies in Civic Discourse

ENGL 5075 - Non-Profit Writing and Grants

ENGL 5080 - Graduate Apprenticeship

ENGL 5220 - Studies in Medieval Literature

ENGL 5230 - Studies in English Renaissance Literature

ENGL 5250 - Studies in Shakespeare

ENGL 5270 - Studies in 18c English Literature

ENGL 5280 - Studies

in 19c English Literature

ENGL 5290 - Studies in 20c English Literature

ENGL 5310 - Early American Literature

ENGL 5320 - Studies in 19c American Literature

ENGL 5330 - Studies in 20c American Literature

ENGL 5340 - Intellectual Current

s in Modern American Literature

ENGL 5350 - Global Literatures in English

ENGL 5355 - Global Englishes

ENGL 5360 - Literatures of Diversity

ENGL 5455 - Slavery and Freedom

ENGL 5520 - History of Literacy Criticism: Enlightenment

and 19th Century

ENGL 5530 - Modern Critical Theory and Practice

ENGL 5600 - Research in Writing Studies

ENGL 5830 - Victorian Women's Lives: Their Art, Literature, and Culture

ENGL 5835 - Writing Program Administration

ENGL 5880 - Studies

in Modern Fiction

ENGL 5885 - Studies in Popular Culture

ENGL 5890 - Consumption, Markets, Cultures

ENGL 5900 - Practicum in College Teaching

ENGL 5915 - Tutorial

ENGL 5920 - Continuing Registration: On Campus

ENGL 5940 -

Continuing Registration: Off Campus

ENGL 5959 - Enrichment Studies

ENGL 5960 - Thesis Research

ENGL 5964 - Thesis Writing Workshop

ENGL 5965 - Thesis Research II

ENGL 5975 - Independent Studies

ENGL 5990 - Internship

English as a Second Language

ESL 1110 - Introduction to Academic Writing Skills

ESL 1210 - English Composition for International Students

ESL 1310 - Academic Listening for International Students

ESL 1410 - Acade

mic Readin g for Internat ional Student s

ESL 2110 - English Oral Skills

ESL 3050 - Advanc ed Acade mic Writing for Internat ional Student s

ESL 4010 - Technic al Writing for Internat ional Student s

ESL 5910 - Internat ional TA

Preparation

Entomology

ENTO 1000 - Insect Biology

ENTO 1001 - Insect Biology

ENTO 1101 - Pests, Plagues and Plants

ENTO 1150 - Pesticide Safety and Application

ENTO 4300 - Insect Ecology

ENTO 4678 - Aquatic Entomology

ENTO 4682 - Insect Anatomy and Physiology

ENTO 4684 - Classification of Insects

ENTO 4686 - Problems in Entomology

ENTO 4687 - Insect Evolution

ENTO 4884 - Insect Behavior

ENTO 5080 - Statistical Methods for the Agricultural and

Natural Resource Sciences

ENTO 5300 - Applied Insect Ecology

ENTO 5601 - Insects for Teachers: Collection and Identification of Insects

ENTO 5602 - Insects in the Classroom: Insects and Their Ways

ENTO 5678 - Aquatic Entomology

ENTO 5682 - Insect Physiology

ENTO 5684 - Classification of Insects

ENTO 5686 - Problems in Entomology

ENTO 5687 - Insect Evolution

ENTO 5689 - Topics in Entomology

ENTO 5850 - Research in Entomology

ENTO 5852 - Senior/ Gradua

te Semina r

ENTO 5884 - Insect Behavi or

ENTO 5900 - Practic um in College Teachin g

ENTO 5920 - Continu ing Registr ation: On Campu s

ENTO 5940 - Continu ing Registr ation: Off Campu s

ENTO 5960 - Thesis Resear ch

ENTO 5980 - Dissertation Research

Entrepreneurship

ENTR 2400 - Entrepreneurial Mindset

ENTR 3020 - Comparison of Entrepreneurial Ecosystems

ENTR 3700 - Innovation, Ideation, and Value Proposition

ENTR 4700 - Business

Model Creation and Launch

ENTR 4750 - Theories of Entrepreneurship

ENTR 4900 - Independent Study in Entrepreneurship

ENTR 4910 - Topics in Entrepreneurship

ENTR 5601 - New Ventures

ENTR 5602 - Strategic Management of Innovat

ion & Technology

ENTR 5603 - Entrepreneurial Finance

Environment and Natural Resources

ENR 1000 - Energy and Society

ENR 1010 - Thinking Like a Mountain: complex environmental challenges and interdisciplinary solutions

ENR 1100 - Environment and Natural Resource Problems and Policies

ENR 1101 - First-Year Seminar

ENR 1200 - Environment

ENR 1330 - Water, Dirt, and Earth's Environment

ENR 1400 - Biodiversity: Science and Society

ENR 2000 - Environ

ment and Society

ENR 2030 - History and Environmental Science

ENR 2100 - Forest Management

ENR 2300 - Foundations of Sustainability

ENR 2330 - Environmental Ethics

ENR 2345 - Natural Resource Ethics

ENR 2410 - Introduction to Outdoor

Leader ship

ENR 2450 - Fish and Wildlife Manage ment in the Anthro pocene

ENR 3000 - Approa ches to ENR Proble m Solving

ENR 3050 - Culture s of Nature in the United States

ENR 3100 - Principl es of Wildlan d Water Quality

ENR 3130 - Environ

mental Quality

ENR 3300 - Environmental Policy, Conservation and Development in India

ENR 3450 - Weather and Climate

ENR 3620 - Environmental Justice

ENR 3700 - Wyoming Conservation Corps Practicum

ENR 3750 - Natural Resource Planning and

Economics

ENR 3900 - Seminar in Environment and Natural Resources

ENR 3950 - Environmental Sociology

ENR 4010 - Winter Ecology: Skills of the Winter Naturalist

ENR 4011 - Winter Ecology: Snowpack Science and Dynamics

ENR 4012 - Winter Ecology: Wildlife and Plant Adaptations

ENR 4030 - Ecology of Knowledge

ENR 4040 - Conservation of Natural Resources

ENR 4051 - Environmental Politics

ENR 4052 - Federal Land Politics

ENR 4240 - Disease Ecology

ENR 4285 - Wildland Hydrology

ENR 4310 - Environmental Anthropology

ENR 4412 - Global Environment History

ENR 4420 - Conservation Biology

ENR 4430 - Green Chemistry and Global Environmental Problems

ENR 4450 - Negotiation

ENR 4500 - Risk Analysis

ENR 4525 - Environmental Data Analysis

ENR 4550 - Negotiation Analysis

ENR 4560 - Conservation Entrepreneurship

ENR 4570 - Climate Change Responses

ENR 4590 - Green Criminology

ENR 4600 -

Campus Sustainability

ENR 4680 - Diversity and Justice in Natural Resources

ENR 4700 - Media, Science, and Society

ENR 4750 - ENR Law and Policy

ENR 4800 - Historic Preservation

ENR 4890 - Topics in Environment and Natural

**Resour
ces**

**ENR
4900 -
Capsto
ne in
ENR**

**ENR
4950 -
Leader
ship in
Natural
Resour
ces
Manage
ment**

**ENR
4960 -
Field
Studies
in:**

**ENR
4965 -
Field
and
Internat
ional
Experie
nce**

**ENR
4970 -
ENR
Interns
hip**

**ENR
4975 -
Indepe**

ndent Study

ENR 5001 - Orientation to ENRS

ENR 5030 - Ecology of Knowledge

ENR 5040 - Conservation of Natural Resources

ENR 5050 - Techniques in Environmental Data Management

ENR 5100 - Foundations of ENRS

ENR 5150 - Environ

mental Science: Perspectives and Methods

ENR 5240 - Disease Ecology

ENR 5270 - Writing and Reviewing Science

ENR 5285 - Wildland Hydrology

ENR 5310 - Environmental Anthropology

ENR 5450 - Negotiation

ENR 5500 -

Risk Analysis

ENR 5525 - Environmental Data Analysis

ENR 5530 - DataViz in Environmental Science

ENR 5550 - Negotiation Analysis

ENR 5560 - Conservation Entrepreneurship

ENR 5570 - Climate Change Responses

ENR 5590 -

Green Criminology

ENR 5600 - Campus Sustainability

ENR 5680 - Diversity and Justice in Natural Resources

ENR 5700 - Media, Science, and Society

ENR 5750 - ENR Law and Policy

ENR 5760 - Wildlife Law

ENR 5770 - NEPA Law

and Policy

ENR 5780 - Public Lands

ENR 5800 - Historic Preservation

ENR 5810 - Environmental Health

ENR 5870 - Graduate Seminar

ENR 5890 - Topics in Environment and Natural Resources

ENR 5900 - Capstone in ENR

ENR 5910 - Collaborative Practice Methods

ENR 5915 - Collaborative Practice Methods

ENR 5921 - Collaborative Practicum

ENR 5940 - Continuing Registration: Off Campus

ENR 5950 - Leadership in Natural Resources Management

ENR 5960 - Thesis Research

ENR 5961 - Plan B Project

ENR 5965 - Field and International Experience

ENR 5975 - Independent Study

Environmental Engineering

ENVE 5410 - Advanced Biological Wastewater Treatment

ENVE 5425 - Environmental Engineering Microbiology

ENVE 5430 - Environmental Engineering Chemistry

ENVE 5445 - Environmental Remediation

ENVE 5450 - Advanced Physical Chemical Treatment

ENVE 5885 - Problems

ENVE 5960 - Thesis

Research

Environmental System Sciences

ESS 1000 - Wyoming in the Earth System

ESS 2000 - Geochemical Cycles and the Earth System

ESS 3480 - Environmental Change

ESS 4001 - Analysis of Nature's Data

ESS 4780 - Biogeochemistry

ESS 4950 - Exploring the Earth System

ESS 4970 - Internship in Earth System Science

ESS 5780 - Biogeochemistry

Family and Consumer Science

FCSC 1009 - Introduction to Family and Consumer

Sciences

FCSC 1101 - First-Year Seminar

FCSC 1141 - Principles of Nutrition

FCSC 1170 - Introduction to Apparel Construction

FCSC 1175 - Design Communication

FCSC 1180 - Applied Design

FCSC 1185 - Introduction to Design, Merchandising

and Textile Industry

FCSC 1410 - Scientific Study of Food

FCSC 1411 - Scientific Study of Food Lab

FCSC 2044 - Life Cycle Nutrition I: Childhood and Adolescence

FCSC 2050 - Safety, Nutrition & Health in Early Childhood Programs

FCSC 2101 - Special Topics In:

FCSC 2110 - Fundamentals of Aging and Human Development

FCSC 2121 - Child Development

FCSC 2122 - Child Development Lab

FCSC 2131 - Family Relations

FCSC 2133 - Intimate Relationships

FCSC 2135 - Women and Aging

FCSC 2141 - Nutrition Controversies

FCSC 2165 - Individual and Societal Motivations for Dress and Appearance

FCSC 2175 - Fashion Illustration

FCSC 2180 - Housing and Residential Design

FCSC 2185 - Trend

Forecasting and Analysis

FCSC 2188 - Interior Design Studio I

FCSC 2200 - Professionalism and Communication in FCSC

FCSC 2210 - Fashion Show Event Planning

FCSC 2270 - Advanced Apparel Construction

FCSC 3044 - Life Cycle Nutrition II:

Adults and Older Adults

FCSC 3110 - Personal Finance

FCSC 3119 - Parent-Child Relationships

FCSC 3122 - Adolescence

FCSC 3129 - Social Development in Young Children

FCSC 3145 - Sports Nutrition and Metabolism

FCSC 3147 - Commu

nity Nutrition

FCSC 3150 - Intermediate Foods

FCSC 3152 - Food Systems Production

FCSC 3160 - Merchandise Retailing and Buying

FCSC 3171 - Introduction to Textile Science

FCSC 3173 - Visual Merchandising and Promotion

FCSC 3174 -

Flat Pattern Design

FCSC 3175 - Apparel Design Through Draping

FCSC 3180 - Contract Design I

FCSC 3185 - Product Development Through Design Thinking

FCSC 3188 - Interior Design Studio II

FCSC 3220 - Multicultural Influences on Childre

n and Familie s

FCSC 3288 - Environ mental Psycho logy and Inclusiv e Design

FCSC 4044 - Life Cycle Nutritio n III: Matern al and Infant

FCSC 4104 - Field Studies in Family and Consu mer Science s

FCSC 4105 - Family and Consu mer Science

s Interns hip

FCSC 4106 - Special Proble ms in Family and Consu mer Science s

FCSC 4112 - Family Decisio n-Making and Resour ce Manage ment

FCSC 4113 - Consu mer Issues

FCSC 4117 - Underst anding Commu nity Leader ship

FCSC 4118 - Family Policy

FCSC 4124 - Families of Young Children With Special Needs

FCSC 4125 - Professional Practices in Human Development and Family Sciences

FCSC 4127 - Directing Preschool and Daycare Programs

FCSC 4130 - Internship in

Child Development

FCSC 4131 - Administration Internship in Child Development

FCSC 4132 - Internship in Human Development and Family Sciences

FCSC 4135 - Program Evaluation

FCSC 4138 - Family Stress and Coping

FCSC 4145 - Advanced

Nutrition and Metabolism

FCSC 4147 - Nutrition and Weight Control

FCSC 4150 - Experimental Foods

FCSC 4160 - Merchandising Strategies and Technology

FCSC 4171 - Advanced Textiles and Product Evaluation

FCSC 4172 - Advanced Textiles and Product

Evaluation Lab

FCSC 4176 - Historic Clothing

FCSC 4178 - Fiber Arts

FCSC 4181 - Global Trade and Sourcing for Textile Products

FCSC 4182 - Env Sustainability in DMT

FCSC 4185 - Product Development and Technology

FCSC 4188 - Contrac

t Design II

FCSC 4190 - Apparel Collection Development

FCSC 4200 - Professionalism in Dietetics

FCSC 4210 - Therapeutic Nutrition I: Nutrition Assessment and Diagnosis

FCSC 4220 - Therapeutic Nutrition II

FCSC 4230 - Therap

eutic Nutrition Counseling

FCSC 4288 - Professional Practice and Advanced Interiors Studio

FCSC 4346 - Clinical Practicum in Dietetics

FCSC 4960 - International Study Tour FCS

FCSC 4970 - Design and Merchandising Internship

FCSC 4985 - Seminar: Development in Community Leadership

FCSC 5044 - Life Cycle Nutrition III: Maternal and Infant

FCSC 5101 - Special Topics in Family and Consumer Sciences

FCSC 5102 - Special Problems

FCSC 5103 - Graduate

Seminar in Family and Consumer Sciences I

FCSC 5104 - Graduate Seminar in Family and Consumer Sciences II

FCSC 5107 - Family and Consumer Sciences Extension Practicum

FCSC 5112 - Family Decision and Resource Management

FCSC 5117 - Understanding Community Leadership

FCSC 5118 - Family Policy

FCSC 5120 - Infancy and Toddlerhood

FCSC 5121 - Ethics in Research and Professional Practice

FCSC 5122 - Developmental Contexts Across the Lifespan

FCSC 5123 - Positive Youth Development

FCSC 5135 - Program Evaluation

FCSC 5138 - Family Stress/ Coping

FCSC 5145 - Advanced Nutrition and Metabolism

FCSC 5147 - Nutrition and Weight Control

FCSC 5148 - Community Nutrition Experience

FCSC 5149 - Food Management & Leadership Experience

FCSC 5151 - Sensory Analysis

FCSC 5171 - Advanced Textiles and Product Evaluation

FCSC 5172 - Advanced Textiles and Product Evaluation Lab

FCSC 5173 - Textile Science Seminar

FCSC 5176 - Historic Clothing

FCSC 5178 - Fiber Arts

FCSC 5179 - Historic Textiles

FCSC 5181 - Global Trade and Sourcing for Textile Products

FCSC 5182 - Environmental Sustainability in Design, Merchandising and Textiles

FCSC 5188 - Contract

Design II

FCSC 5210 - Therapeutic Nutrition I: Nutrition Assessment and Diagnosis

FCSC 5220 - Therapeutic Nutrition II

FCSC 5230 - Therapeutic Nutrition Counseling

FCSC 5240 - Clinical Nutrition Experience I

FCSC 5250 - Clinical

Nutrition Experience II

FCSC 5260 - Clinical Nutrition Experience III

FCSC 5288 - Professional Practice and Advanced Interiors Studio

FCSC 5890 - Seminar in Food Science and Nutrition

FCSC 5900 - Practicum in College Teaching

FCSC 5920 - Continuing Registration: On Campus

FCSC 5940 - Continuing Registration: Off Campus

FCSC 5950 - Dietetics Capstone

FCSC 5959 - Enrichment Studies

FCSC 5960 - Thesis Research

FCSC 5985 - Development of

Community Leadership

Finance

FIN 2010 - Personal Finance and Investments

FIN 2100 - Principles of Finance

FIN 3000 - Intermediate Corporate Finance

FIN 3100 - Real Estate Development

FIN 3310 - Investment Management

FIN 3520 - Financial Markets

FIN 4221 - Blockchain & Digital Financial Services

FIN 4250 - Advanced Corporate Finance

FIN 4340 - Portfolio Management I

FIN 4350 - Portfolio Management II

FIN 4360 - Options and Futures

FIN 4400 - Financial Modeling

FIN 4460 - Multinational Finance

FIN 4502 - Energy Finance

FIN 4510 - Bank Management

FIN 4530 - Fixed Income Securities

FIN 4540 - Banking Policy

FIN 4710 - Risk Management

FIN 4800 - Real Estate Finance

FIN 4810 - Real Estate Investment

FIN 4900 - Ind. Study in Finance

FIN 4910 - Topics in Finance

FIN 5070 - Tax Planning for Financial Planners

FIN 5221 - Blockchain & Digital Financial

Services

FIN 5250 - Cases in Corporate Finance

FIN 5310 - Advanced Investment Analysis

FIN 5320 - Corporate Finance and Governance

FIN 5400 - Advanced Financial Modeling

FIN 5502 - Energy Finance: Project

Evaluation

FIN 5530 - Fixed Income Securities

FIN 5710 - Risk Management

FIN 5720 - Insurance and Retirement Planning

FIN 5750 - Fundamentals of Financial Planning

FIN 5780 - Estate Planning

FIN 5800 - CFP

Capstone

FIN 5890 - Advanced Problems in Finance

FIN 5920 - Continuing Registration: On Campus

FIN 5940 - Continuing Registration: Off Campus

FIN 5990 - Internship

Food Science

FDSC 1101 - First-Year

Seminar

FDSC 1410 - Scientific Study of Food

FDSC 1411 - Scientific Study of Food Lab

FDSC 2040 - Principles of Meat Animal Evaluation

FDSC 3060 - Principles of Meat Science and Muscle Biology

FDSC 3061 - Livestock Slaughter

Practicum

FDSC 3062 - Carcass Fabrication

FDSC 3063 - Meat Processing

FDSC 3545 - Introduction to Meat Judging

FDSC 3550 - Advanced Meat Judging

FDSC 3720 - Applied Food Chemistry

FDSC 4090 - Food Microbiology

FDSC 4100 - Laboratory Techniques in Food Microbiology

FDSC 4800 - Problems in Food Science

FDSC 4900 - Food Safety

FDSC 4990 - Undergraduate Teaching Practicum

FDSC 5090 - Food Microbiology

FDSC 5100 - Food Microbiology Laboratory

FDSC 5880 - Advanced Problems and Topics

FDSC 5890 - Seminar in Food Science and Nutrition

FDSC 5900 - Practicum in College Teaching

FDSC 5940 - Continuing Registration: Off Campus

FDSC 5959 - Enrichment Studies

FDSC 5960 -

Thesis Research

FDSC 5980 - Dissertation Research

FDSC 5990 - Internship

French

FREN 1010 - First Year French I

FREN 1020 - First Year French II

FREN 2030 - Second Year French I

FREN 2040 - Second Year

French II

FREN 2130 - Contemporary French Culture

FREN 2140 - Introduction to Reading

FREN 3005 - French Phonetics and Pronunciation

FREN 3050 - Third Year French I

FREN 3060 - Third Year French II

FREN 3110 - Contemporary French

Civilization

FREN 3990 - Independent Study

FREN 4080 - Studies in the French Language

FREN 4100 - A Survey of French Literature I

FREN 4110 - A Survey of French Literature II

FREN 4120 - Medieval French Literature

FREN 4140 - 17th Century French Literature

FREN 4200 - Introduction to Research

FREN 4250 - 19th Century French Literature

FREN 4260 - 20th Century French Literature

FREN 4350 - Studies in French and Francophone Literatures

FREN 4990 -

Advanced Independent Study

FREN 5080 - Studies in French Language

FREN 5120 - Medieval French Literature

FREN 5140 - 17th Century French Literature

FREN 5160 - Graduate Readings

FREN 5170 - Special Problems

FREN 5250 - 19th Century French Literature

FREN 5260 - 20th Century French Literature

FREN 5350 - Studies in French and Francophone Literatures

FREN 5900 - Practicum in College Teaching

FREN 5920 - Continuing Registration: On Campus

FREN 5940 - Continuing Registration: Off Campus

FREN 5959 - Enrichment Studies

FREN 5960 - Thesis Research

FREN 5990 - Internship

Gender and Women's Studies

GWST 1030 - Social Justice in the 21st Century

GWST 1080 - Intro Gender & Women's Studies

GWST 2000 - Introduction to LGBTQ/NS Studies

GWST 2050 - Women and Leadership

GWST 2070 - Gender and Religion

GWST 2389 - History of Women in the American West

GWST 2400 - Gender

and Disability

GWST 2450 - Topics in Gender & Women's Studies

GWST 3050 - Cultures of Nature in the United States

GWST 3200 - Perspectives in Chicana Studies

GWST 3300 - Psychology of Gender

GWST 3400 - Popular Music and

Sexualities

GWST 3500 - Sociology of Gender

GWST 3600 - Gender, Race, Sex & Social Systems

GWST 3710 - Gender and Humanities

GWST 3800 - Chicanas/os in Contemporary Society

GWST 4065 - Black American Rhetorics

GWST 4066 - Rhetori

cs of Social Justice

GWST 4067 - Race, Gender, Media, and Rhetoric

GWST 4075 - Culture, Identity, & Place

GWST 4200 - Gender and Race in the Economy

GWST 4233 - Race, Gender, Ethnicity in the Media

GWST 4300 - The Politics of Sexuality

GWST 4335 - Women and Islam

GWST 4360 - American Indian Women

GWST 4430 - Queer Theory

GWST 4440 - Queer Life Through Memoir

GWST 4450 - Ecofeminism

GWST 4500 - Topics in Gender & Women's Studies

GWST 4540 - Gender

and Crime

GWST 4550 - American Southwest

GWST 4610 - Gender, Race & Rural Spaces

GWST 4630 - Gender and Politics

GWST 4650 - Women, Gender & Migration

GWST 4660 - Methods of Social Justice

GWST 4675 - USWomen of Color

GWST 4700 - Feminist Theories

GWST 4780 - History of Women Artists

GWST 4830 - Victorian Women's Lives: Their Art, Literature and Culture

GWST 4960 - Women's Bodies, Women's Minds

GWST 4965 - Senior Honors Project

GWST 4970 -

Internship

GWST 4975 - Independent Studies

GWST 5000 - Special Topics

GWST 5065 - Black American Rhetorics

GWST 5066 - Rhetorics of Social Justice

GWST 5067 - Race, Gender, Media, and Rhetoric

GWST 5200 - Gender and Race in the

**Econo
my**

**GWST
5233 -
Race,
Gender,
Ethnicit
y in the
Media**

**GWST
5335 -
Women
and
Islam**

**GWST
5360 -
Americ
an
Indian
Women**

**GWST
5430 -
Queer
Theory**

**GWST
5450 -
Ecofem
inism**

**GWST
5540 -
Gender
and
Crime**

**GWST
5550 -
Americ
an**

Southwest

GWST 5610 - Gender, Race & Rural Spaces

GWST 5650 - Women, Gender & Migration

GWST 5710 - Feminist Theoretical Perspectives

GWST 5780 - History of Women Artists

GWST 5830 - Victorian Women's Lives: Their Art,

Literature, and Culture

GWST 5900 - Practicum in College Teaching

GWST 5959 - Enrichment Studies

GWST 5960 - Thesis Research

GWST 5970 - Independent Studies

GWST 5990 - Internship

SOC 4075 - Culture, Identity, & Place

Geography

GEOG 1000 - World Regional Geography

GEOG 1010 - Introduction to Physical Geography

GEOG 1020 - Introduction to Human Geography

GEOG 1101 - Surviving the Apocalypse: The Geography of Natural Disasters (FYS)

GEOG 2370 - Chicano History:

Origins to GEOG 1900

GEOG 3010 - Geomorphology of Earth's Dynamic Landscapes

GEOG 3030 - Geography and Development

GEOG 3050 - Economic Geography

GEOG 3400 - Traditional Ecological Knowledge

GEOG 3450 - Weathe

r and Climate

GEOG 3480 - Environmental Change

GEOG 3550 - Natural Hazards and Society

GEOG 4000 - Terrain Analysis

GEOG 4013 - Political Geography

GEOG 4040 - Conservation of Natural Resources

GEOG 4051 - Environmental Politics

GEOG 4052 - Federal Land Politics

GEOG 4080 - Management of Major River Basins

GEOG 4113 - Geological Remote Sensing

GEOG 4441 - Advanced Climate Variability

GEOG 4450 - Fluvial Geomorphology

GEOG 4460 - Biogeography

GEOG 4470 -

Fire Ecology

GEOG 4500 - The American Landscape

GEOG 4502 - Images of Wyoming and the West

GEOG 4550 - Geography of Wine

GEOG 4560 - Global Cities

GEOG 4570 - Cultural Geography

GEOG 4580 - Sense of Place

GEOG 4590 - Geography of Conflicts

GEOG 4875 - Independent Studies

GEOG 4880 - Current Topics

GEOG 4885 - Seminar: (TOPICS)

GEOG 4960 - Field Studies

GEOG 4965 - Directed Studies / Research Problems

GEOG 4990 - Interns

hip/ Practicum

GEOG 5013 - Political Geography

GEOG 5040 - Conservation of Natural Resources

GEOG 5060 - Landscape Ecology

GEOG 5441 - Advanced Climate Variability

GEOG 5450 - Fluvial Geomorphology

GEOG 5470 -

Fire Ecology

GEOG 5500 - Landscapes of the Americas

GEOG 5502 - Images of Wyoming and the West

GEOG 5560 - Global Cities

GEOG 5570 - Cultural Geography

GEOG 5580 - Sense of Place

GEOG 5590 - Geography of Conflicts

GEOG 5920 - Continuing Registration: On Campus

GEOG 5940 - Continuing Registration: Off Campus

GEOG 5960 - Thesis Research

GEOG 5990 - Internship/Practicum

GEOL 4040 - Conservation of Natural Resources

GEOL 5040 - Conser

vation of Natural Resources

Geology and Geophysics

GEOG 4555 - Political Ecology

GEOL 1001 - Earth Science and Society

GEOL 1005 - Earth History

GEOL 1050 - Gold and the American West

GEOL 1060 - Geolog

y of the Nationa l Parks

GEOL 1070 - The Earth: Its Physica l Environ ment

GEOL 1100 - Physica l Geolog y

GEOL 1101 - The Anthro pocene : Human' s Control of Nature

GEOL 1102 - First Year Experie nce: "Geolo gy of The Rocky Mounta

in Region "

GEOL 1110 - Physical Geology for Engineers

GEOL 1310 - The Water-Energy-Climate Nexus

GEOL 1320 - Global Sustainability: Managing Earth's Resources

GEOL 1330 - Water, Dirt, and Earth's Environment

GEOL 2000 - Geoche

mical Cycles and the Earth System

GEOL 2010 - Mineralogy

GEOL 2020 - Introduction to Petrology

GEOL 2050 - Principles of Paleontology

GEOL 2070 - Introduction to Oceanography

GEOL 2080 - General Field Geology

GEOL 2100 - Stratigraphy and

Sedimentation

GEOL 2120 - Quantitative GeoMethods

GEOL 2150 - Geomorphology

GEOL 2220 - Communicating Earth Science

GEOL 3005 - Principles of Geophysics

GEOL 3040 - Introduction to Groundwater

GEOL 3051 - Building and Sustaining a Habitab

le Planet

GEOL 3110 - Invertebrate Paleontology

GEOL 3250 - Geosciences and Computers

GEOL 3400 - Geologic Hazards: A Historical and Scientific Review

GEOL 3450 - Weather and Climate

GEOL 3480 - Environmental Change

GEOL 3500 -

Global Change: A Geological Perspective

GEOL 3550 - Natural Hazards and Society

GEOL 3600 - Earth and Mineral Resources

GEOL 3650 - Energy for Society: Addressing the Energy Grand Challenge

GEOL 4000 - Paleomagnetism in Geolog

y/Geophysics

GEOL 4001 - Modeling the Earth System

GEOL 4010 - Exploration Geoscience

GEOL 4020 - Global Biogeochemistry

GEOL 4025 - Igneous and Metamorphic Petrology

GEOL 4030 - Groundwater Flow and Solute Transport Modeling

GEOL 4050 - Geology of Wyoming

GEOL 4060 - Rocky Mountain Field Trip

GEOL 4113 - Geological Remote Sensing

GEOL 4125 - Igneous Petrology

GEOL 4130 - Mathematical Geosciences

GEOL 4140 - Diversity Inclusion Geoscience

GEOL 4150 - Paleontology of Lower Vertebrates

GEOL 4160 - Regional Tectonics

GEOL 4170 - Paleontology of Cenozoic Placental Mammals

GEOL 4190 - Petroleum Geology

GEOL 4191 - Methods in Petroleum Geology

GEOL 4200 - Topics in Geology

GEOL 4210 - Topics in Geophysics

GEOL 4214 - Topics in Economic Geology

GEOL 4250 - Mathematical Geosciences

GEOL 4270 - Hydrogeophysics

GEOL 4280 - Paleobotany

GEOL 4310 - Advanc

ed Stratigraphy

GEOL 4320 - Cenozoic Stratigraphy

GEOL 4420 - Sedimentary Rocks

GEOL 4440 - High-Performance Computing for Scientists and Engineers

GEOL 4441 - Advanced Climate Variability

GEOL 4444 - Geohydrology

GEOL 4460 -

Planetary Geology

GEOL 4470 - Fire Ecology

GEOL 4490 - Geochemistry

GEOL 4505 - Paleoenvironmental Research

GEOL 4525 - Environmental Data Analysis

GEOL 4610 - Structural Geology and Tectonics

GEOL 4666 - Plate

Tectonics

GEOL 4717 - Field Course in Geology

GEOL 4720 - Ore Deposits

GEOL 4760 - Rates and Timescales of Surface Processes

GEOL 4777 - Geochemistry of Natural Waters

GEOL 4800 - Independent Study

GEOL 4820 -

Capstone

GEOL 4835 - Applied/Exploration Geophysics

GEOL 4850 - Principles of Digital Filtering and Time Series Analysis

GEOL 4880 - Earth Surface Processes

GEOL 4888 - Glaciology

GEOL 5020 - Fundamentals of Research

GEOL 5030 - Groundwater Flow and Solute Transport Modeling

GEOL 5050 - Introduction to Isotope Geology

GEOL 5060 - Rocky Mt. Field Trip

GEOL 5113 - Geological Remote Sensing

GEOL 5120 - Tectonic Evolution of the North Americ

an Cordillera

GEOL 5140 - Diversity Inclusion Geoscience

GEOL 5150 - Metamorphic Petrology

GEOL 5160 - Regional Tectonics

GEOL 5180 - Reflection Seismology

GEOL 5190 - Petroleum Geology

GEOL 5191 - Method

s in Petroleum Geology

GEOL 5200 - Topics in Geology

GEOL 5210 - Topics in Geophysics

GEOL 5211 - Seminar in Structural Geology and Tectonics

GEOL 5212 - Sedimentary Seminar

GEOL 5213 - Seminar in Tectonics

GEOL 5214 - Topics in Economic Geology

GEOL 5215 - Inverse Theory

GEOL 5216 - Global Seismology

GEOL 5217 - Geodynamics

GEOL 5220 - Vertebrate Morphology and Evolution

GEOL 5230 - Vertebrate Paleobiogeography

GEOL 5250 - Mathematical Geosciences

GEOL 5270 - Hydrogeophysics

GEOL 5280 - Paleobotany

GEOL 5300 - Sedimentary Basins

GEOL 5321 - Engineering and Environment Geophysics

GEOL 5330 - Mechanics of Sediment Transport, Erosion and

Deposition

GEOL 5340 - Advanced Tectonics and Sedimentation

GEOL 5410 - Applied Geochemical Analysis

GEOL 5420 - Surfaces and Interfaces

GEOL 5441 - Advanced Climate Variability

GEOL 5444 - Geohydrology

GEOL 5446 - Introduction to

Geostatistics

GEOL 5450 - Geochemical Modeling

GEOL 5470 - Fire Ecology

GEOL 5505 - Paleoenvironmental Research

GEOL 5525 - Environmental Data Analysis

GEOL 5550 - Numerical Methods in Ground Water Geology I

GEOL 5560 - Numerical Methods in Ground Water Geology II

GEOL 5570 - Advanced Geohydrology

GEOL 5600 - Theoretical Petrology

GEOL 5610 - Geological Thermodynamics I

GEOL 5630 - Electronic Microprobe

GEOL 5640 - Advanced

Igneous Petrology Seminar

GEOL 5650 - Advanced Metamorphic Petrology

GEOL 5660 - Microstructural Analysis of Deformed Rocks

GEOL 5666 - Plate Tectonics

GEOL 5700 - Seminar in Structure and Development of the Earth's Crust

GEOL 5720 - Ore Deposits

GEOL 5730 - Seismic Data Processing

GEOL 5760 - Rates and Timescales of Surface Processes

GEOL 5777 - Geochemistry of Natural Waters

GEOL 5820 - Advanced Geomorphology

GEOL 5835 - Applied/Exploration

Geophysics

GEOL 5850 - Economic Geology

GEOL 5851 - Environmental Geology

GEOL 5852 - Geochemistry

GEOL 5853 - Geomorphology

GEOL 5854 - Geophysics

GEOL 5855 - Ground Water Hydrology

GEOL 5856 - Mathematical

and Statistical Geology

GEOL 5857 - Mineralogy and Crystallography

GEOL 5858 - Paleontology

GEOL 5859 - Petrology

GEOL 5860 - Sedimentology

GEOL 5861 - Stratigraphy

GEOL 5862 - Structural Geology

GEOL 5900 -

Practicum in College Teaching

GEOL 5920 - Continuing Registration: On Campus

GEOL 5940 - Continuing Registration: Off Campus1

GEOL 5959 - Enrichment Studies

GEOL 5960 - Thesis Research

GEOL 5980 - Dissertation Research

GEOL 5990 - Internship

Geospatial Information Science Technology

GIST 1001 - GIST Orientation and Portfolio

GIST 1200 - Geospatial Foundations

GIST 2110 - Techniques in Cartography

GIST 2140 - Survey of

Remote Sensing Applications

GIST 2190 - Introduction to Programming in Geospatial Information Science and Technology

GIST 2200 - Spatial Data Visualization

GIST 2310 - Intro to Geographic Information Systems

GIST 3050 - Spatial Database

Design and Management

GIST 3140 - Introduction to Remote Sensing

GIST 4130 - Applied Remote Sensing

GIST 4211 - Advanced Remote Sensing

GIST 4410 - UAS Sensors and Platforms

GIST 4420 - UAS Mission Planning

GIST 4430 - UAS Regulations and Safety

GIST 4440 - UAS Ground School and Operations

GIST 4450 - UAS Data Acquisition and Processing

GIST 4780 - Capstone in GIS&T

GIST 4790 - Special Topics in Geospatial Information Science and

Techno logy

GIST 4870 - Interns hip in Geospa tial Informa tion Science and Techno logy

GIST 4950 - Underg raduate Resear ch in Geospa tial Informa tion Science and Techno logy

GIST 5002 - Geospa tial Forum

GIST 5050 - Basics of Spatial Data Science

GIST 5100 - Foundations of Geospatial Information Science and Technology

GIST 5111 - Introduction to Remote Sensing

GIST 5120 - Integration of RS and GIS Data

GIST 5130 - Applied Remote Sensing

GIST 5150 - Applied Geospatial Analytics

GIST 5200 - Geographic Visualization

GIST 5211 - Advanced Remote Sensing

GIST 5220 - Spatial Modeling & Data Analysis

GIST 5280 - Navigating GIST Professions

GIST 5300 - Web Mapping and Internet GIS

GIST 5350 - Enterprise GIS

GIST 5410 - UAS Sensors and Platforms

GIST 5420 - UAS Mission Planning

GIST 5430 - UAS Regulations and Safety

GIST 5440 - UAS Ground School and Operations

GIST 5450 - UAS Data Acquisition and Processing

GIST 5780 -

GIS&T Capstone

GIST 5790 - Special Topics in Geospatial Information Science and Technology

GIST 5960 - GIST Thesis Research

German

GERM 1010 - First Year German I

GERM 1020 - First Year German II

GERM 1101 -

First-Year Seminar

GERM 2030 - Second Year German I

GERM 2040 - Second Year German II

GERM 3006 - 20th Century German Culture and Civilization

GERM 3050 - Third Year German I

GERM 3060 - Introduction to German Literature

GERM 3150 - German History and Culture

GERM 3990 - Independent Study

GERM 4070 - Fourth Year German

GERM 4080 - German - English and English - German Translation

GERM 4100 - A Survey of German Literature I

GERM 4110 - A Survey

of German Literature II

GERM 4145 - Weimar Classicism

GERM 4180 - German Poetry

GERM 4200 - Introduction to Research

GERM 4240 - German Literature of the Romantic Period

GERM 4255 - 19th Century German Novellas

GERM 4275 - Contem

porary Migration Literature

GERM 4285 - 20th/21st Century German Film

GERM 4990 - Advanced Independent Study

GERM 5070 - 4th Year German

GERM 5100 - A Survey of German Literature I

GERM 5110 - A Survey of German

Literature II

GERM 5145 - Weimar Classicism

GERM 5160 - Graduate Readings

GERM 5180 - German Poetry

GERM 5240 - German Literature of the Romantic Period

GERM 5255 - 19th Century German Novellas

GERM 5275 - Contemporary Migrati

on Literature

GERM 5285 - 20th/21st Century German Film

GERM 5940 - Continuing Registration: Off Campus

GERM 5960 - Thesis Research

GERM 5990 - Internship

Greek

GRK 1010 - First Year Greek I

GRK 1020 - First

Year Greek II

GRK 2030 - Second Year Greek

GRK 2040 - Second Year Greek II

GRK 3990 - Independent Study

Higher Education

HIED 5000 - Community College Leadership

HIED 5020 - Higher Education Systems

HIED 5030 - Continuing and Professional Education

HIED 5040 - Higher Education Staffing

HIED 5050 - Workforce Training

HIED 5060 - Program Budgets and Instructions

HIED 5090 - Masters Capstone

HIED 5240 - Teaching Adults

HIED 5260 - Educational Issues Race, Class, and Gender

HIED 5600 - Higher Education Finance

HIED 5610 - Planning and Evaluation of Instructional Systems

HIED 5630 - Advanced Organizational Leadership

HIED 5640 - Leadership Development

HIED 5650 - Law of Higher Education

HIED 5660 - Community College

HIED 5670 - Community College Issues and Leadership

HIED 5680 - Issues in Higher Education

History

HIST 1101 - FYS: Hamilton's America: Beyond the Musical

HIST 1110 - Western Civilization I

HIST 1120 - Western Civilization II

HIST 1211 - U.S. to 1865

HIST 1221 - U.S. From 1865

HIST 1251 - Wyoming History

HIST 1290 - History of the U.S. West

HIST 1320 - World History to 1500

HIST 1330 - World History since 1500

HIST 2020 - American Military History

HIST 2030 - History and Environmental Science

HIST 2040 - Imperial China

HIST 2041 - Modern China

HIST 2050 - Introduction to Public History

HIST 2060 - Topics in History

HIST 2070 - Introduction to Museology

HIST 2075 - Museology II

HIST 2080 - Holocaust

HIST 2105 - Medieval Europe in Film

HIST 2110 - Forgotten Africa: Intro to African Civilizations

HIST 2130 - Ancient Rome

HIST 2225 - History of

Christianity

HIST 2230 - The History of Russia to 1855

HIST 2240 - The History of Russia Since 1855

HIST 2250 - American Religious History I (To 1865)

HIST 2252 - American Religious History II (1865 to 1945)

HIST 2280 - Introduction to

European Studies

HIST 2290 - History of North American Indians

HIST 2315 - History of Non-Western Religions

HIST 2320 - History of Islam

HIST 2335 - Buddhism

HIST 2360 - African-American History

HIST 2370 - Chicano History:

Origins to 1900

HIST 2380 - Latin American History 1500 to 2000

HIST 2385 - Chicano History : 1900 to Present

HIST 2389 - History of Women in the American West

HIST 2390 - US West Between the World Wars

HIST 2440 - The Impact

of the Union Pacific on Wyoming History

HIST 2460 - Traditional Japan

HIST 2461 - Modern Japan

HIST 2470 - Civilization of India

HIST 3000 - Plains Culture and History

HIST 3020 - Historical Methods

HIST 3050 - Athenian

Democracy

HIST 3110 - Modern Germany

HIST 3160 - "What Killed Socrates?"

HIST 3220 - History of the Modern Middle East

HIST 3230 - Early Christianity

HIST 3240 - Reformation and Enlightenment Christianity

HIST 3250 - Tibetan

Buddhism

HIST 3280 - Tibetan Buddhism

HIST 3300 - Secret History of Science

HIST 3400 - Mongol Empire

HIST 3500 - Colonial America

HIST 3670 - African Diaspora

HIST 4000 - Indians of Wyoming

HIST 4030 - Senior

Capstone Seminar

HIST 4060 - Independent Study

HIST 4077 - Book History: Topics

HIST 4078 - Museum Studies Minor Internship

HIST 4100 - Early Medieval Europe

HIST 4110 - The High Middle Ages

HIST 4112 - History of the

Medieval City

HIST 4150 - Europe During the Age of the Enlightenment

HIST 4170 - Europe in the Nineteenth Century

HIST 4270 - France: Old Regime and Revolution

HIST 4290 - History of the Soviet Union

HIST 4310 - World War II in Europe

HIST 4340 - The Social History of American Women

HIST 4380 - International History of Human Rights

HIST 4400 - Internship

HIST 4406 - American Encounters from 1850

HIST 4410 - America in an Early Modern World

HIST 4412 - Global

Environment History

HIST 4425 - Britain's Global Empires: 1558 to the Present

HIST 4450 - The Civil War and Reconstruction

HIST 4462 - American Indian History to 1783

HIST 4463 - American Indian History 1783 to 1890

HIST 4464 - American

Indians in the Twentieth Century

HIST 4466 - American Indian Ethnohistory

HIST 4468 - American Indians in the North American West

HIST 4470 - The Birth of Modern America, 1890 to 1929

HIST 4475 - American Environmental History

HIST 4480 -

Growth of Modern America, 1929 to 1960

HIST 4485 - U.S. Latino Diaspora

HIST 4490 - Modern America, 1960 to Present

HIST 4494 - The U.S. in Latin America

HIST 4495 - Borderlands in Latin America

HIST 4505 - The Old South, 1820 to 1861

HIST 4510 - Modern East Asia

HIST 4515 - American Legal History

HIST 4530 - 19th Century American West

HIST 4535 - History of Oil

HIST 4540 - 20th Century American West

HIST 4545 - The Multicultural West

HIST 4560 - Americ

an Social History in the 20th Century

HIST 4565 - Historical Archaeology

HIST 4990 - Topics in _____

HIST 5000 - Indians of Wyoming

HIST 5077 - Book History: Topics

HIST 5110 - The High Middle Ages

HIST 5112 - History of the

Medieval City

HIST 5170 - Europe in the 19th Century

HIST 5270 - France: Old Regime and Revolution

HIST 5290 - History of the Soviet Union

HIST 5310 - World War II in Europe

HIST 5340 - The Social History of American Women

HIST 5380 - International History of Human Rights

HIST 5400 - Graduate Topics in History

HIST 5410 - America in an Early Modern World

HIST 5412 - Global Environment History

HIST 5425 - Britain's Global Empires: 1558 to the Present

HIST 5462 -

American Indian History to 1783

HIST 5463 - American Indian History to 1890

HIST 5470 - The Birth of Modern America, 1890 to 1929

HIST 5475 - American Environmental History

HIST 5480 - Growth of Modern America, 1929 to 1960

HIST 5490 - Modern Americ

a, 1960 to Present

HIST 5494 - The U.S. in Latin America

HIST 5495 - Borderlands in Latin America

HIST 5510 - Modern East Asia

HIST 5530 - 19th Century American West

HIST 5535 - History of Oil

HIST 5540 - 20th Century Americ

an West

HIST 5560 - American Social History in the 20th Century

HIST 5565 - Historical Archaeology

HIST 5585 - Conference on U.S. History

HIST 5600 - Graduate Readings

HIST 5630 - Seminar on Western American History

HIST 5645 - Seminar on American Indian History

HIST 5880 - History Theory

HIST 5910 - Seminar in History Profession

HIST 5920 - Continuing Registration: On Campus

HIST 5940 - Continuing Registration: Off Campus

HIST 5959 -

Enrichment Studies

HIST 5960 - Thesis Research

HIST 5990 - Internship

Health Education

HLED 1006 - Personal Health

HLED 1221 - Standard First Aid and Personal Safety

HLED 2006 - Health for Elementary Educators

HLED 3020 - Community and Public Health

HLED 4005 - Global Health in Modern Society

HLED 4007 - Crime and Exercise in Scotland: Exploring the Relationship between Physical Fitness, Crime, and Public Spaces

HLED 4015 - Internship Experie

nce in Health

HLED 4016 - Research Experience in Kinesiology and Health

HLED 4020 - Food, Health, and Justice

HLED 4021 - Creating Conditions for Community Health

HLED 4025 - Teaching Sensitive Issues In Human Sexuality

HLED 4030 - Substance Abuse/ Suicide Prevention in Education

HLED 4074 - Field Studies in (TOPIC)

HLED 4097 - Individual Problems

HLED 4110 - Teaching Health in Schools K-12

HLED 4120 - Assessment in Health

HLED 4130 - Management of

Coordinated School Health Programs

HLED 4900 - Topics in:

HLED 5016 - Analysis and Supervision of Teaching Physical Education

HLED 5020 - Food, Health, and Justice

HLED 5021 - Creating Conditions for Community Health

HLED 5022 -

Unlocking the Potential of Public Health

HLED 5023 - Using Epidemiology to Build Health

HLED 5024 - Increasing Support for PH

HLED 5025 - Teaching Sensitive Issues in Human Sexuality

HLED 5026 - Rural Community Health

HLED 5050 - Commu

nity and Public Health Promotion

HLED 5085 - Research Methods in Health Education

HLED 5097 - Individual Problems

HLED 5130 - Management of Coordinated School Health Programs

HLED 5586 - Seminar in Health Education

HLED 5810 - Environmental Health

HLED 5900 - Practicum in College Teaching

HLED 5959 - Enrichment Studies

HLED 5960 - Thesis Research

KIN 4027 - Emergency Prep and Response

Health Sciences

HLSC 1090 - SPARX:

Topics in Interdisciplinary Health Care

HLSC 4010 - Health Professions Admissions

HLSC 4100 - Global Public Health

HLSC 4985 - Health Sciences Internship

HLSC 4990 - Current Topics in the Health Sciences

HLSC 5990 - Topics In Health

Sciences

Honors College

HP 1020 - Honors Colloquium I

HP 1101 - First-Year Seminar

HP 1200 - People and Policy

HP 2020 - Honors Colloquium II

HP 2150 - Producing Knowledge: Analysis, Creativity, &

Expression

HP 2250 - Producing Knowledge: Interviews, Surveys, & Experiments

HP 3050 - Topics

HP 3151 - Topics: Global Perspectives

HP 3152 - Topics: Global Perspectives

HP 3153 - Topics: Global Perspectives

HP 3154 - Topics:

Global Perspectives

HP 3155 - Topics: Global Perspectives

HP 3156 - Topics: Global Perspectives

HP 3157 - Topics: Global Perspectives

HP 4150 - Topics:

HP 4151 - Topics:

HP 4152 - Topics

HP 4153 - Topics

HP 4154 - Topics:

HP 4155 - Topics:

HP 4250 - Producing Knowledge: Capstone Seminar

HP 4350 - Internship

HP 4975 - Independent Study

HP 4976 - Independent Study

HP 4990 - Topics:

—

Hospitality

HOSP 2000 - Foundations of

Customer Service & Hospitality

HOSP 3000 - Managing Profitability in Hospitality

HOSP 4800 - Hospitality Operations Management

HOSP 4900 - Independent Study in Hospitality

HOSP 4910 - Topics in Hospitality

Human

Medicine

HLED 5027 - Emergency Prep and Response

HM 6506 - Clinical Preceptorship

HM 6510 - Microscopic Anatomy: Histology

HM 6511 - Anatomy and Embryology

HM 6512 - Mechanisms in Cell Physiology

HM 6513 -

Introduction to Clinical Medicine

HM 6514 - Biochemistry 1A

HM 6516 - Systems of Human Behavior

HM 6521 - Microbiology and Infectious Disease 1A

HM 6522 - Introduction to Clinical Medicine

HM 6523 - Introduction to Immunology

HM 6524 - Biochemistry 1B

HM 6531 - Anatomy of Head and Neck

HM 6532 - Nervous System

HM 6534 - Microbiology and Infectious Disease 1B

HM 6535 - Introduction to Clinical Medicine

HM 6553 - Musculoskeletal System

HM 6590 - Medical Information for Decision Making

HM 6602 - Introductory Primary and Continuity Care Clerkship

HM 6603 - Clinical Studies

HM 6610 - Molecular and Cellular Basis of Disease

HM 6615 - Ecology of Health and Medicine Foundations I

HM 6620 - Invaders and Defenders

HM 6625 - Ecology of Health and Medicine Foundations II

HM 6630 - Circulatory System

HM 6635 - Ecology of Health and Medicine Foundations III

HM 6640 - Blood and Cancer

HM 6645 - Ecolog

y of Health and Medicine Foundations IV

HM 6650 - Energetic and Homeostasis

HM 6660 - Musculoskeletal

HM 6700 - Research Methods

HM 6710 - Fund. Medical Sci. & Research

HM 6715 - Foundations of Clinical Med 1

HM 6720 - Infection & Immunity

HM 6725 - Foundations of Clinical Med 2

HM 6730 - Cancer, Hormones & Blood1

HM 6735 - Foundations of Clinical Med 3

HM 6740 - Muscles, Joints, Bones, & Skin

HM 6745 - Foundations of Clinical Med 4

HM 6750 - Cardiovascular System

HM 6755 - Medicine, Health, & Society 1

HM 6760 - Respiration and Regulation

HM 6770 - Head, Neck, & Gut

HM 6775 - Medicine, Health, & Society 2

HM 6800 - Mind, Brain, &

Behavior

HM 6900 - Life Cycles and Reproduction

Information Literacy

LBRY 3010 - Research from a Distance

LBRY 3020 - Research as Social Capital

LBRY 5600 - Research Data Management

Information

Management

IMGT 2400 - Introduction to Information Management

IMGT 4500 - Data & Business Analytics

IMGT 4910 - Topics in Info. Management

IMGT 4990 - Contemporary Topics in Information Management

International

Business

INBU 1040 - Introduction to International Business

INBU 4570 - Global Business Issues

INBU 4900 - Independent Study in International Business

INBU 4910 - Topics in International Business

INBU 4920 - International Busine

ss: Study Abroad

INBU 5570 - Global Business Issues

International Studies

INST 1040 - Introduction to International Business

INST 1060 - World Regional Geography

INST 1101 - First-Year Seminar

INST 1200 -

Non-Western Political Cultures

INST 1250 - Introduction to Comparative Government

INST 1330 - World History since 1750

INST 2200 - Politics of Europe

INST 2230 - Introduction to Asian Studies

INST 2240 - Introduction to African Studies

INST 2250 - Introduction to Latin American Studies

INST 2260 - Foreign Locale

INST 2280 - Introduction to European Studies

INST 2310 - Introduction to International Relations

INST 2350 - Introduction to Global Studies

INST 2490 - Topics in Internat

ional Studies

INST 3000 - Social Change

INST 3050 - Economic Geography

INST 3100 - Chinese Society

INST 3200 - Comparative Political Cultures

INST 3250 - Global Justic

INST 3400 - Politics and Society of Turkey

INST 3420 - The Anthropology of Global Issues

INST 3860 - World Food, Ag, & Development

INST 3910 - Global Sociology

INST 3933 - African Philosophy

INST 4013 - Political Geography

INST 4050 - Development, Africa, and Culture

INST 4060 - NGOs, Development, and Culture

INST 4100 - Global Public Health

INST 4175 - Gender, Women, and Health

INST 4200 - China and Globalization

INST 4215 - European Union

INST 4240 - Global Sex Work and Trafficking

INST 4250 - East Asia Society and Economy

INST 4255 - Politics of Developing Nations

INST 4260 - Democratization and Regime Change

INST 4280 - Comparative Criminal Justice

INST 4290 - Inter-American Relations

INST 4315 - History,

Politics and Memory of the Holocaust in Europe

INST 4330 - American Foreign Relations

INST 4340 - International Organizations

INST 4350 - Culture Change

INST 4360 - International Peace and Conflict

INST 4370 - Global Political Economy

INST 4375 - Transitional Justice

INST 4380 - International History of Human Rights

INST 4385 - Environment and Resource Conflict

INST 4445 - Drug War Geopolitics in the Americas

INST 4455 - Energy Security

INST 4475 - Politics of

Natural Resources in Latin America

INST 4485 - USLatino Diaspora

INST 4500 - Landscapes of the Americas

INST 4540 - International Marketing

INST 4555 - Political Ecology

INST 4560 - Global Cities

INST 4570 - Cultural

Geography

INST 4580 - Gender, Global Change, and Development

INST 4582 - 20th Century USForeign Relations

INST 4590 - Sustainable Business Practices

INST 4650 - Women, Gender & Migration

INST 4705 - Terrorism

INST 4710 - Why Economies Succeed and Fail

INST 4881 - International Social Welfare and Social Development

INST 4950 - Capstone in International Studies

INST 4970 - Internship in International Studies

INST 4975 - Readings in International Studies

INST 4990 - Topics:

INST 5013 - Political Geography

INST 5050 - Development, Africa, and Culture

INST 5060 - NGOs, Development, and Culture

INST 5100 - Global Public Health

INST 5200 - Graduate Proseminar in International Studies

INST 5210 - Seminar in Human Security

INST 5215 - European Union

INST 5220 - Graduate Seminar in Development

INST 5240 - Global Sex Work and Trafficking

INST 5250 - East Asia Society and Economy

INST 5255 - Politics

of Developing Nations

INST 5260 - Democratization and Regime Change

INST 5310 - Seminar in Human Rights

INST 5315 - History, Politics and Memory of the Holocaust in Europe

INST 5330 - American Foreign Relations

INST 5360 - International Peace

and Conflict

INST 5375 - Transitional Justice

INST 5380 - International History of Human Rights

INST 5385 - Environment and Resource Conflict

INST 5400 - International Social Science Research Methods

INST 5445 - Drug War Geopolitics in

the Americas

INST 5455 - Energy Security

INST 5475 - Politics of Natural Resources in Latin America

INST 5500 - Landscapes of the Americas

INST 5555 - Political Ecology

INST 5560 - Global Cities

INST 5570 - Cultural

Geogra phy

INST 5580 - Gender, Global Change , and Develo pment

INST 5582 - 20th Century USFore ign Relatio ns

INST 5590 - Sustain able Busine ss Practic es

INST 5650 - Women , Gender & Migrati on

INST 5881 - Internat ional Social

Welfare and Social Development

INST 5920 - Continuing Registration: On Campus

INST 5940 - Continuing Registration: Off Campus

INST 5960 - Thesis Research

INST 5970 - Internship

INST 5975 - Graduate Readings in Internat

ional Studies

INST 5990 - Topics:

Leadership

LEAD 3110 - Foundations for Leadership

LEAD 4110 - Leadership in Practice

LEAD 4210 - Systems-led Leadership

LEAD 4900 - Ind. Study in Leadership

LEAD 4910 - Topics in

Leadership

Learning, Design, and Technology

ITEC 1101 - First-Year Seminar

ITEC 2360 - Teaching with Technology

ITEC 4010 - Instructional Technology

ITEC 4030 - Introduction to Online Teaching

ITEC 4220 - Materials

Production I

ITEC 4340 - Technology Integration in Teaching

ITEC 4740 - Field Studies In (TOPIC)

ITEC 5000 - Intro to the Field of Instructional Technology

ITEC 5010 - Instructional Technology

ITEC 5020 - Technology and Distance

Education

ITEC 5030 - Introduction to Online Teaching

ITEC 5070 - Trends In Instructional Technology

ITEC 5090 - Masters Capstone

ITEC 5120 - Media Workshop

ITEC 5160 - Introduction to Instructional Design

ITEC 5320 - Messag

e Design

ITEC 5350 - Multimedia Development

ITEC 5470 - Instructional Video

ITEC 5480 - Short Course

ITEC 5510 - Communication in Distance Education

ITEC 5550 - Theory of Change

ITEC 5560 - Design and Development of

Instructional Systems

ITEC 5660 - Interactive Learning Systems

ITEC 5760 - Instructional Design Applications

ITEC 5870 - Seminar

ITEC 5900 - Practicum in College Teaching

ITEC 5920 - Continuing Registration: On Campus

ITEC 5940 - Continuing Registration: Off Campus

ITEC 5959 - Enrichment Studies

ITEC 5960 - Thesis Research

ITEC 5980 - Dissertation Research

ITEC 5990 - Internship

LDTE 5000 - Theoretical Foundations in LDT

LDTE 5010 -

Elements of Design

LDTE 5020 - Technology & The Mind

LDTE 5100 - Innovative Pedagogy

LDTE 5110 - Visual Design and Media

LDTE 5120 - Managing Design & Technology

LDTE 5200 - Play, Make, Learn

LDTE 5210 - Learning

Experience Design

LDTE 5220 - Critical Digital Praxis in Ed

LDTE 5700 - Issues, Practice, and Research in Learning, Design, and Technology

LDTE 5730 - Game Design & Development

LDTE 5750 - Technology Innovations: Present & Future

LDTE 5760 - Instructional Design Applications

LTED 5480 - Iss in ESL and BE

Japanese

JAPN 1010 - First Year Japanese I

JAPN 1020 - First Year Japanese II

JAPN 2030 - Second Year Japanese I

JAPN 2040 - Second Year Japanese II

JAPN 2070 - Conversational Japanese Abroad

JAPN 3050 - Third Year Japanese I

JAPN 3060 - Third Year Japanese II

JAPN 3990 - Independent Study

JAPN 4070 - Fourth Year Japanese I

JAPN 4990 - Advanced Independent Study

Kinesiology

KIN 1006 - Introduction to Kinesiology and Health

KIN 1040 - Contemporary Topics in North American Sport

KIN 1101 - First-Year Seminar

KIN 2000 - Movement Core I: Striking/Fielding and Invasion Games

KIN 2001 -

Movement Core 1: Sport & Game-based Approaches in Physical Education

KIN 2002 - Movement Core 2: Lifetime Physical Education

KIN 2003 - Movement Core 3: Adventure and Outdoor Education

KIN 2004 - Movement Core 4: Fundamental

Movement Education

KIN 2005 - Movement Core VI: Physical Fitness and Physical Activity

KIN 2010 - Field Experience for Prospective Elementary and Secondary Teachers

KIN 2040 - Human Anatomy

KIN 2041 - Human Anatom

y Laboratory

KIN 2050 - Socio-Cultural Aspects of Physical Activity, Exercise and Sport

KIN 2490 - Topics In:

KIN 3011 - Teaching Methods in Physical Education K-12

KIN 3012 - Teaching Laboratory I

KIN 3015 - Teachin

g Laboratory II

KIN 3020 - Observational Experience in Movement Science

KIN 3021 - Physiology of Exercise

KIN 3022 - Lab Exp in Exercise Physiology

KIN 3024 - Fundamentals of Health and Fitness Assessment

KIN 3034 - Lifespa

n Motor Develo pment

KIN 3037 - Sport Psycho logy

KIN 3038 - Exercis e Psycho logy

KIN 3040 - Teachin g Human Anatom y

KIN 3042 - Biomec hanics of Human Movem ent

KIN 3044 - Concep ts in Physica l Therap y

KIN 3050 - Prevention and Care of Athletic Injuries

KIN 3052 - Rehabilitation of Athletic Injuries

KIN 3058 - Therapeutic Modalities for the Athletic Trainer

KIN 3060 - Understanding Skill Acquisition for Teaching

KIN 3068 - Athletic Training Clinical III

KIN 4001 - Short Course in Physical Education for Undergraduates

KIN 4010 - Pediatric Exercise Physiology

KIN 4012 - Curriculum Development in Physical Education

KIN 4013 - School Administration for the Health Sciences

KIN 4015 - Internship Experience in Kinesiology

KIN 4016 - Research Experience in Kinesiology and Health

KIN 4017 - Teaching Laboratory III

KIN 4020 - Motor Behavior

KIN 4020 - Motor Behavior

KIN 4020 - Motor Behavior

KIN 4024 - Physical Activity Epidemiology

KIN 4025 - Functional Movement Analysis

KIN 4029 - Methods of Training and Conditioning

KIN 4042 - Advanced Biomechanics

KIN 4043 - Drugs & Exercise Performance

KIN 4055 -

Adapted Physical Education

KIN 4056 - Advanced Exercise Testing and Prescription

KIN 4062 - Applied Concepts in Human Aging

KIN 4065 - Resources in Adapted Physical Education

KIN 4068 - Athletic Training Clinical V

KIN 4074 - Field Studies in (TOPIC)

KIN 4075 - Assessment in Adapted Physical Education

KIN 4080 - Assessment in Physical Education

KIN 4086 - Honors Seminar

KIN 4090 - Foundations of Coaching

KIN 4097 - Individual

Problems

KIN 4099 - Student Teaching in Physical Education

KIN 4900 - Topics in:

KIN 5011 - Teacher Socialization in PE

KIN 5013 - Spectrum of Teaching Styles

KIN 5014 - Teaching Tactics in Sport-Based Physical

Education

KIN 5015 - Instructional Models for Physical Education

KIN 5016 - Analysis and Supervision of Teaching in Physical and Health Education

KIN 5018 - Psychology of Teaching Physical Education

KIN 5024 - Physical Activity

Epidemiology

KIN 5033 - Understanding of Variability in Humans

KIN 5034 - Lifespan Growth and Psychomotor Development

KIN 5035 - Sociology of Sport

KIN 5038 - Advances in Research on Sport Expertise

KIN 5039 - Perception and

Action in Motor Skills

KIN 5041 - Environmental Physiology

KIN 5042 - Professional Skills for Scient

KIN 5046 - Applied Biomechanics and Programming

KIN 5047 - Biomechanics in Sports

KIN 5056 - Advanced Exercise Testing and

Prescription

KIN 5062 - Applied Concepts in Human Aging

KIN 5080 - Investigations in Kinesiology and Health

KIN 5085 - Research Methods

KIN 5086 - Qualitative Research Methods

KIN 5090 - Foundations of Coaching

KIN 5097 - Individual Problems

KIN 5536 - Sport Psychology

KIN 5537 - Exercise Psychology

KIN 5586 - Seminar

KIN 5587 - Special Problems

KIN 5588 - K&H Intellectual Seminar

KIN 5900 - Practicum in College

Teaching

KIN 5920 - Continuing Registration: On Campus

KIN 5940 - Continuing Registration: Off Campus

KIN 5959 - Enrichment Studies

KIN 5960 - Thesis Research

KIN 5980 - Dissertation Research

KIN 5990 -

Internship

Land Surveying

LS 2010 - Engineering Surveying Lecture

LS 2015 - Engineering Surveying Laboratory

LS 2020 - GPS for Land Surveyors

LS 2100 - Records Research for Surveyors

LS 2110 - Real Property Law

LS 2400 - Basic Geodesy for Surveyors

LS 2410 - GIS in Surveying

LS 2499 - Sophomore Land Surveying Topics

LS 3100 - Real Property Descriptions

LS 3110 - Boundary Evidence

LS 3120 - Boundary Principles

LS 3130 - Public

Land Surveys

LS 3200 - Route Surveying

LS 3210 - Advanced Surveying

LS 3230 - Applied Least Squares Adjustments

LS 3300 - Ethics for the Professional Surveyor

LS 3400 - Remote Sensing/Photogammetry for Surveyors

LS 3500 - Junior Surveying Topics

LS 4110 - Coastal Water Boundaries

LS 4120 - Inland Water Boundaries

LS 4130 - Advanced Public Land Surveys

LS 4500 - Senior Land Surveying Topics

Language

LANG 1010 - First Semester in (TOPIC)

LANG 1020 - Second Semester in (TOPIC)

LANG 1101 - First-Year Seminar

LANG 2030 - Third Semester in (TOPIC)

LANG 2040 - Fourth Semester in: (TOPIC)

LANG 2150 - Manga: History and Culture

LANG 3105 - Major Themes in Chinese and Japanese

Literature

LANG 3140 - Anime: History and Culture

LANG 4485 - Latin Diaspora: Comparative History of US

LANG 4785 - Linguistics, Language Teaching and Social Context

LANG 4800 - Advanced Instruction In: (TOPIC)

LANG 4975 - Independent Study

In: (TOPIC)

LANG 5300 - Advanced Linguistics

LANG 5900 - Practicum in College Teaching

LANG 5959 - Enrichment Studies

Latin

LATN 1010 - First Year Latin I

LATN 1020 - First Year Latin II

LATN 2030 - Second Year Latin

LATN 3110 - Vergil, The Aeneid I

LATN 3120 - Vergil, The Aeneid II

LATN 3140 - Caesar

LATN 3150 - Livy

LATN 3160 - Ovid

LATN 3990 - Independent Study

LATN 4110 - Horace

LATN 4115 - Latin Philosophers

LATN 4120 -

Catullus and the Elegiac Poets

LATN 4130 - Cicero

Latina/o Studies

LTST 1030 - Social Justice in the 21st Century

LTST 1100 - Introduction to Chicano Studies

LTST 1101 - First-Year Seminar

LTST 1300 - Introduction to Latina/

o Studies

LTST 2060 - Special Topics in:

LTST 2360 - Mexican American Literature

LTST 2370 - Chicano History: Origins to 1900

LTST 2385 - Chicano History: 1900 to Present

LTST 3080 - Spanish Language in the USA

LTST 3200 - Perspectives in Chicana Studies

LTST 3560 - Chicano Community Organizations

LTST 3800 - Chicanas/os in Contemporary Society

LTST 4075 - Culture, Identity, & Place

LTST 4100 - U.S. Latina/o Theater

LTST 4470 - Studies in

Chicano Folklore

LTST 4485 - USLatino Diaspora

LTST 4496 - History of Mexico

LTST 4550 - American Southwest

LTST 4650 - Women, Gender & Migration

LTST 4660 - Methods of Social Justice

LTST 4675 - U.S.

Women of Color

LTST 4975 - Independent Studies

LTST 4990 - Topics in Chicano Studies

LTST 5100 - U.S. Latina/o Theater

LTST 5650 - Women, Gender & Migration

Law

LAW 6110 - Contract I

LAW 6120 -

Property I

LAW 6130 - Torts I

LAW 6140 - Criminal Law

LAW 6150 - Judicial Remedies

LAW 6160 - Legal Writing I

LAW 6165 - Legal Research

LAW 6166 - Interview, Counseling and Negotiation

LAW 6210 - Contracts II

LAW 6220 - Property II

LAW 6240 - Civil Procedure I

LAW 6250 - Constitutional Law I

LAW 6260 - Legal Writing II

LAW 6310 - Business Organizations

LAW 6320 - Income Taxation

LAW 6330 - Trusts and Estates

LAW 6340 -

Civil Procedure II

LAW 6350 - Constitutional Law II

LAW 6410 - Evidence

LAW 6420 - Professional Responsibility

LAW 6510 - Administrative Law

LAW 6530 - American Legal History

LAW 6540 - Antitrust

LAW 6550 - Bankruptcy

LAW 6555 - Bioethics

LAW 6560 - Business Planning

LAW 6565 - Civil Pretrial Practice

LAW 6570 - Payment Systems

LAW 6600 - Consumer Protection

LAW 6615 - Taxation of Business Entities

LAW 6620 - Bankru

ptcy Law

LAW 6630 - Criminal Procedure

LAW 6635 - Domestic Violence Law

LAW 6640 - Family Law

LAW 6645 - Children and the Law

LAW 6660 - Environmental Law

LAW 6665 - Education Law

LAW 6670 - Estate Planning

LAW 6675 - Gift and Estate Taxation

LAW 6680 - Federal Courts

LAW 6685 - Health Law

LAW 6700 - Indian Law

LAW 6710 - Insurance Law

LAW 6715 - Immigration Law

LAW 6720 - International Law

LAW 6725 - Intellectual

Property

LAW 6730 - Jurisprudence

LAW 6735 - Native American Natural Resources Law

LAW 6740 - Labor Law

LAW 6745 - Employment Law

LAW 6750 - Law and Economics2

LAW 6755 - Legislation

LAW 6760 - Local

Government Law

LAW 6765 - International Business Transactions

LAW 6775 - International Human Rights

LAW 6790 - Oil and Gas

LAW 6800 - Public Lands

LAW 6810 - Real Estate Finance

LAW 6830 - Secured Transactions

LAW 6840 - Securities Regulation

LAW 6850 - Trial Practice

LAW 6860 - Water Law and Policy

LAW 6865 - Natural Resources Law

LAW 6875 - Hazardous Waste and Water Pollution Law

LAW 6880 - Criminal Adjudication

LAW 6885 - Law Office Management

LAW 6890 - Land Use Law

LAW 6910 - Seminar

LAW 6915 - Topics in Law

LAW 6920 - Legal Skills and Problems

LAW 6925 - Advanced Persuasive Writing

LAW 6930 - Legal Clinic

LAW 6931 - Clinic: Civil Legal Services

LAW 6932 - Clinic: Defender Aid

LAW 6933 - Clinic: Energy, Environment and Natural Resources

LAW 6934 - Clinic: Family and Child Advocacy

LAW 6935 - Contract Drafting

LAW 6936 - Clinic:

Prosecution Assistance

LAW 6937 - Estate Planning Practicum

LAW 6940 - Independent Study

LAW 6941 - Independent Study: Clinic

LAW 6945 - Workers Compensation Law

LAW 6950 - Law Review

LAW 6960 - Legal Externships

LAW 6970 - Legal Competitions

LAW 6990 - Advanced Topics

LAW 6991 - Advanced Water Law and Policy

LAW 6992 - Advanced Oil and Gas Law

LAW 6993 - Advanced Trust and Estates

Library Sciences

LIBS 2000 - Libraries and Librarianship

LIBS 4360 - Reference and Bibliography

LIBS 4380 - Cataloging and Classification

LIBS 4520 - Library Practice

LIBS 5320 - Selection of Instructional Materials

LIBS 5380 - Cataloging and Classification

LIBS 5440 - Information Technology

LIBS 5520 - Teaching the Use of the Library

LIBS 5900 - Practicum in College Teaching

LIBS 5920 - Continuing Registration: On Campus

LIBS 5940 - Continuing Registration: Off Campus

LIBS 5959 - Enrichment Studies

LIBS 5960 - Thesis Research

LIBS 5990 - Internship

Life Sciences

LIFE 1002 - Discovering Science

LIFE 1003 - Current Issues in Biology

LIFE 1010 - General Biology

LIFE 1020 - Life Science

LIFE 1101 - Introduction to Ecological Research

LIFE 2021 - General Microbiology

LIFE 2022 - Animal Biology

LIFE 2023 - Biology of Plants and Fungi

LIFE 2100 - Intro Research and Analysis

LIFE 2200 - Research in Action

LIFE 2300 -

Scientific Communication

LIFE 3050 - Genetics

LIFE 3400 - General Ecology

LIFE 3410 - Introduction to Field Ecology

LIFE 3500 - Evolutionary Biology

LIFE 3600 - Cell Biology

LIFE 4975 - Practicum in Laboratory Teaching

LIFE 4976 - Practicum in Laboratory Teaching II

Literacy Education

LTED 5000 - Theoretical Foundations in LDTE

LTED 5800 - Theoretical Perspectives on Literary Processes and Practices

LTED 5810 - Theoretical Perspectives on Writing

LTED 5830 - Review, Critique, and Synthesis of Literacy Research

LTED 5850 - Foundational Scholars in Social Science Research

LTED 5860 - History of Literacies

LTED 5870 - Special Topics in Literacy Education

LTED 5880 - Public Digital

Scholarship

Management

MGT 2010 - Legal Environment of Business

MGT 2030 - Principle-Based Ethics

MGT 2100 - Management and Organizations

MGT 3410 - Human Resources Management

MGT 3420 - Organizational Behavior and

Leader ship

MGT 4030 - Advanc ed Bus Decisio n Making

MGT 4220 - Talent Acquisi tion

MGT 4240 - Perfor mance and Compe nsation

MGT 4260 - Trainin g and Develo pment

MGT 4340 - Law for Manage rs

MGT 4350 - Comme rcial Law

MGT 4360 - Business Law for Entrepreneurs

MGT 4370 - Employment Law

MGT 4395 - Supply Chain Management (Capstone)

MGT 4430 - Organization Design and Change

MGT 4470 - Negotiations and Conflict Resolution

MGT 4630 - Sourcing and

Supply Management

MGT 4670 - Logistics Management

MGT 4800 - Business Strategy and Policy

MGT 4900 - Independent Study in Management

MGT 4910 - Topics in Management

MGT 5030 - Advanced Bus Decision Making

MGT 5030 - Advanced Business Decision Making

MGT 5504 - Energy Industry Value Chain

MGT 5600 - Graduate Internship in Business

MGT 5890 - Advanced Problems in Management

Marketing

MKT 1101 - First-Year Seminar

MKT 2100 - Introduction to Marketing

MKT 4230 - Integrated Marketing Communication

MKT 4240 - Consumer Behavior

MKT 4250 - Digital Marketing

MKT 4430 - Marketing Management

MKT 4440 - Services Marketing

MKT 4450 - Advanced Marketing Management

MKT 4520 - Marketing Research and Analysis

MKT 4540 - International Marketing

MKT 4590 - Sustainable Business Practices

MKT 4900 - Independent Study in Marketing

MKT 4910 - Topics in Marketing

MKT 5240 - Research Design

MKT 5250 - Behavioral Theory I

MKT 5280 - Behavioral Theory II

MKT 5350 - Marketing Models

MKT 5450 - Marketing Theory I

MKT 5520 - Strategy

Theory And Research

MKT 5590 - Sustainable Business Practices

MKT 5890 - Advanced Problems in Marketing

MKT 5940 - Continuing Registration: Off Campus

MKT 5980 - Dissertation Research

Master of Busin

ess Administration

MBAM 5101 - MBA Foundations

MBAM 5102 - Operations Management

MBAM 5103 - Business Research Methods

MBAM 5104 - Organization Behavior and Human Resource Management

MBAM 5106 - Professional

**Develo
pment I**

**MBAM
5107 -
Executi
ve
Leader
ship I**

**MBAM
5108 -
Financi
al
Accoun
ting**

**MBAM
5201 -
Data &
Busine
ss
Analyti
cs**

**MBAM
5202 -
Data
and
Decisio
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Modelin
g**

**MBAM
5203 -
Entrepr
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Manage
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**MBAM
5204 -**

Financial Management

MBAM 5206 - Professional Development II

MBAM 5207 - Marketing Management

MBAM 5208 - Accounting for Managers

MBAM 5209 - Executive Leadership II

MBAM 5301 - MBA Summer Project

MBAM 5303 - Internat

ional Business

MBAM 5305 - Strategic Management

MBAM 5309 - Managerial Economics

MBAM 5311 - MBA Managerial Economics II

MBAM 5330 - Global Business Environment

MBAM 5401 - Investment Management and Analysis

MBAM 5402 - Corporate Finance and Governance

MBAM 5403 - Financial Modeling

MBAM 5404 - Seminar on Management Fraud

MBAM 5434 - Macro Economic Analysis

MBAM 5501 - Energy Economics and Policy

MBAM 5503 - Fundamentals

of Accounting in the Energy Industry

MBAM 5506 - Energy Finance: Securities, Hedging, and Trading

MBAM 5507 - Energy Business Strategy (Capstone)

MBAM 5508 - Marketing and Sustainable Consumption

MBAM 5800 - MBA Topics

MBAX 5800 - MBA Topics

Mathematics

MATH 1000 - Problem Solving

MATH 1080 - Bridge Program Math

MATH 1100 - Number and Operations for Elementary School Teachers

MATH 1101 - First-Year Seminar

MATH 1105 - Data, Probabi

lity, and Algebra for Elementary School Teachers

MATH 1123 - Math, Music and Acoustics

MATH 1400 - College Algebra

MATH 1405 - Trigonometry

MATH 1450 - Algebra and Trigonometry

MATH 2120 - Geometry and Measurement for Elementary School

Teachers

MATH 2200 - Calculus I

MATH 2205 - Calculus II

MATH 2210 - Calculus III

MATH 2250 - Elementary Linear Algebra

MATH 2300 - Discrete Structures

MATH 2310 - Applied Differential Equations I

MATH 2350 - Business

Calculus

MATH 2355 - Math Applications for Business

MATH 2450 - Putnam Team Seminar

MATH 2485 - Mathematics Major Seminar

MATH 3205 - Analysis I: Elementary Real Analysis

MATH 3310 - Appl Diff Equations II

MATH 3340 - Introduction to Scientific Computing

MATH 3341 - Introduction to Scientific Computing Lab

MATH 3500 - Algebra I: Introduction to Rings and Proofs

MATH 3700 - Combinatorics

MATH 4000 - History of Mathematics

MATH 4100 - Mathematics in

the Elementary School

MATH 4150 - Secondary School on Campus

MATH 4200 - Analysis 2: Advanced Analysis

MATH 4205 - Analysis 3: Undergraduate Topics in Analysis

MATH 4230 - Introduction to Complex Analysis

MATH 4255 - Mathematical Theory of Probability

MATH 4265 - Introduction to the Theory of Statistics

MATH 4300 - Introduction to Mathematical Modeling

MATH 4340 - Numerical Methods for Ordinary and Partial Differential Equations

MATH 4420 -

Advanced Logic

MATH 4440 - Introduction to Partial Differential Equations I

MATH 4500 - Matrix Theory

MATH 4510 - Algebra II: Introduction to Group Theory

MATH 4520 - Algebra III: Topics in Abstract Algebra

MATH 4550 - Theory of Numbers

MATH 4600 - Foundations of Geometry

MATH 4800 - Seminar in Mathematics

MATH 4970 - Professional Development in Teaching

MATH 5090 - Topics in the Foundations of Mathematics

MATH 5140 - Numbers, Operations, and Patterns for the Middle-

level Learner

MATH 5150 - Seminar in Secondary School Mathematics

MATH 5160 - Social and Historical Issues in Mathematics and the Middle-Level Learner

MATH 5170 - Connecting Geometry with Problem-Solving for the Middle-Level Learner

MATH 5190 -

Mathematics of Change and the Middle-Level Learner

MATH 5200 - Real Variables I

MATH 5205 - Real Variables II

MATH 5230 - Complex Variables I

MATH 5235 - Complex Variables II

MATH 5255 - Mathematical Theory of Probability

MATH 5265 - Introduction to the Theory of Statistics

MATH 5270 - Functional Analysis I

MATH 5275 - Functional Analysis II

MATH 5290 - Topics in Analysis

MATH 5310 - Computational Methods in Applied Sciences I

MATH 5340 - Comput

ational Method s II

MATH 5345 - Comput ational Method s III

MATH 5390 - Topics in Numeri cal Analysi s

MATH 5400 - Method s of Applied Mathem atics I

MATH 5405 - Method s of Applied Mathem atics II

MATH 5420 - Advanc ed Logic

MATH 5430 -

Ordinary Differential Equations II

MATH 5440 - Partial Differential Equations II

MATH 5490 - Topics in Applied Mathematics

MATH 5500 - Advanced Linear Algebra

MATH 5510 - Combinatorial Theory

MATH 5530 - The Theory of Groups

MATH 5550 - Abstract Algebra I

MATH 5555 - Abstract Algebra II

MATH 5570 - Matrix Theory and Combinatorics

MATH 5590 - Topics in Algebra

MATH 5600 - Point-Set Topology

MATH 5605 - Algebraic Topology

MATH 5640 -

Differential Geometry

MATH 5690 - Topics in Topology

MATH 5700 - Topics in Combinatorics

MATH 5800 - Seminar in Mathematics

MATH 5900 - Practicum in College Teaching

MATH 5920 - Continuing Registration: On Campus

MATH 5940 - Continuing Registration: Off Campus

MATH 5959 - Enrichment Studies

MATH 5960 - Thesis Research

MATH 5980 - Dissertation Research

MATH 5990 - Internship

Mathematics Education

EMAT 5100 - Theory

and Research for Mathematical Learning

EMAT 5150 - Elem & Midd Sch Math Adv Persp

EMAT 5160 - HS Math from Advanced Perspect

EMAT 5200 - Advanced Study of Mathematics Curriculum, Assessment, and Evaluation

EMAT 5300 - Theory and Practice for Mathematics Teaching and Teacher Education

EMAT 5400 - Analysis and Critique of Research in Mathematics Education

EMAT 5500 - Colloquium in Mathematics Education

EMAT 5600 - Quantitative Reasoning & Modelin

g in Mathematics and Science Education

EMAT 5700 - Principles and Methods for Integrated Teaching & Learning Mathematics & Science

EMAT 5980 - Dissertation Research

Mechanical Engineering

ME 3005 - Engineering Experimentati

on and Solid Modeling

ME 3010 - Intermediate Mechanics of Materials

ME 3020 - System Dynamics

ME 3040 - Thermodynamics II

ME 3060 - Numerical Methods for Engineers

ME 3160 - Thermal/Fluid Science Lab

ME 3170 -

Machine Design

ME 3360 - Fundamentals of Transport Phenomena

ME 3400 - Heating, Ventilating and Air Conditioning of Buildings

ME 3450 - Properties of Materials

ME 3975 - Internship

ME 4010 - Mechanical

Vibrations

ME 4020 - Design of Mechanical/Electronic Systems

ME 4040 - Introduction to Finite Elements

ME 4060 - Systems Design I

ME 4070 - Systems Design II

ME 4100 - Manufacturing Processes

ME 4150 -

Mechanical Behavior of Materials

ME 4200 - Thermo/Kinetics of Materials

ME 4210 - Introduction to Composite Materials

ME 4215 - Composite Materials Design and Manufacturing

ME 4240 - Gas Dynamics I

ME 4250 - Biomec

hanics of Movement

ME 4330 - Internal Combustion Engines

ME 4340 - Gas Turbine Engines

ME 4350 - Airplane Aerodynamics and Flight

ME 4430 - HVAC Systems Analysis and Design

ME 4450 - Principles of Materials

Selection

ME 4455 - Combustion Engineering

ME 4460 - Solar and Geothermal Engineering

ME 4461 - Computational Fluid Dynamics I

ME 4470 - Wind and Ocean Energy Engineering

ME 4474 - Topics in Mechanical Engineering I

ME 4480 - Building Air and Hydronic Systems

ME 4490 - Modeling and Optimization of Energy Systems

ME 4740 - Mechanical System Design

ME 5040 - Introduction to Finite Element Analysis

ME 5045 - Advanced Finite Element

Analysis

ME 5200 - Thermo/Kinetics of Materials

ME 5422 - Advanced Vibrations

ME 5431 - Analysis of Composite Materials

ME 5432 - Advanced Materials Science

ME 5434 - Computational Materials Science

ME 5435 - Failure of Engineering Materials

ME 5438 - Plasticity and Viscoelasticity

ME 5440 - Fluid Mechanics

ME 5442 - Advanced Fluid Mechanics

ME 5444 - Optical Diagnostics in the Thermal and Fluid Sciences

ME 5446 -

Turbulence

ME 5448 - Experimental Fluid Dynamics.

ME 5452 - Convection Heat Transfer

ME 5455 - Combustion Engineering

ME 5461 - Computational Fluid Dynamics I

ME 5462 - Computational Fluid Dynamics II

ME 5472 -

Continuum Mechanics

ME 5474 - Energy Methods

ME 5475 - Topics in Mechanical Engineering II

ME 5478 - Seminar in Mechanical Engineer

ME 5920 - Continuing Registration: On Campus

ME 5940 - Continuing Registr

ation: Off Campus

ME 5959 - Enrichment Studies

ME 5960 - Thesis Research

ME 5961 - Graduate Projects

ME 5980 - Dissertation Research

Medical Laboratory Science

MLSK 4840 - Laboratory Educati

on Methodology

MLSK 4850 - Clinical Research Design

MLSK 4860 - Laboratory Management

MLSK 4870 - Advanced Clinical Chemistry

MLSK 4880 - Advanced Hematology: Erythrocytes

MLSK 4890 - Professional Career Paths and Review

MLSK 4981 - Advanced Clinical Practicum- Hematology

MLSK 4982 - Advanced Clinical Practicum- Molecular

MLSK 4983 - Advanced Clinical Practicum- Immunohematology

MLSK 4984 - Advanced Clinical Practicum- Microbiology

Microbiology

MICR 2021 - General Microbiology

MICR 2220 - Pathogenic Microbiology

MICR 2240 - Medical Microbiology

MICR 3021 - Eukaryotic Microbes

MICR 4001 - Epidemiology (Diseases in Population)

MICR 4090 - Food Microbiology

MICR 4100 - Food

Microbiology Lab

MICR 4130 - Mammalian Pathobiology

MICR 4140 - Soil Microbiology

MICR 4200 - Diagnostic Bacteriology

MICR 4220 - Molecular Mechanisms of Bacterial Pathogenesis

MICR 4321 - Microbiology Capstone

MICR 4360 -

Medical Entomology and Parasitology

MICR 4440 - Microbial Genetics

MICR 4460 - Microbial Physiology

MICR 4500 - Veterinary Entomology and Parasitology

MICR 4540 - Microbial Diversity and Ecology

MICR 4710 - Medical

Virology

MICR 5001 - Epidemiology (Diseases in Population)

MICR 5130 - Mammalian Pathobiology

MICR 5140 - Soil Microbiology

MICR 5220 - Molecular Mechanisms of Bacterial Pathogenesis

Molecular Biology

MOLB 1050 -

Genetic Engineering and Synthetic Biology

MOLB 1101 - First-Year Seminar: Genetic Engineering and Synthetic Biology

MOLB 2021 - General Microbiology

MOLB 2240 - Medical Microbiology

MOLB 3000 - Introduction to Molecular Biology

MOLB 3320 -

Molecular Biological Methods

MOLB 3610 - Principles of Biochemistry

MOLB 4010 - Laboratory Research in Molecular Biology

MOLB 4050 - Student Seminar: Topics in ___

MOLB 4051 - Departmental Seminar

MOLB 4052 - Summer

Seminar

MOLB 4053 - Communications in Molecular Biology

MOLB 4100 - Clinical Biochemistry

MOLB 4260 - Quantitative Microscopy

MOLB 4400 - Immunology

MOLB 4440 - Microbial Genetics

MOLB 4450 - Cell and Developmental

Genetics

MOLB 4460 - Microbial Physiology and Metabolism

MOLB 4540 - Microbial Diversity and Ecology

MOLB 4600 - Advanced Biochemistry

MOLB 4610 - Biochemistry 2: Molecular Mechanisms

MOLB 4670 - Advanced Molecul

ar Cell Biology

MOLB 4680 - Signaling in Host-microbe Interaction

MOLB 4850 - Undergraduate Teaching Internship

MOLB 4990 - Topics In:___

MOLB 5010 - Advanced Laboratory Research in Molecular Biology

MOLB 5050 - Advanced Student

**Semina
r**

**MOLB
5051 -
Depart
ment
Semina
r**

**MOLB
5052 -
Summe
r
Semina
r**

**MOLB
5055 -
Molecul
ar
Monday**

**MOLB
5056 -
Current
Topics
in Cell
Biology**

**MOLB
5057 -
Microbi
al and
Synthet
ic
Biology**

**MOLB
5058 -
Experi
mental
Molecul
ar**

Genetics

MOLB 5260 - Quantitative Microscopy

MOLB 5400 - Immunology

MOLB 5440 - Microbial Genetics

MOLB 5450 - Cell and Developmental Genetics

MOLB 5460 - Microbial Physiology and Metabolism I

MOLB 5520 -

Molecular and Cellular Life Sciences Laboratory Rotations

MOLB 5521 - Molecular and Cellular Life Sciences Cornerstone

MOLB 5540 - Microbial Diversity and Ecology

MOLB 5600 - Advanced Biochemistry

MOLB 5610 - Biochemistry 2: Molecul

ar Mechanisms

MOLB 5630 - Advanced Topics in Molecular Biology

MOLB 5670 - Advanced Molecular Cell Biology

MOLB 5680 - Signaling in Host-microbe Interaction

MOLB 5700 - Principles of Biomedical Research

MOLB 5900 - Practic

um in College Teaching

MOLB 5920 - Continuing Registration: On Campus

MOLB 5940 - Continuing Registration: Off Campus

MOLB 5959 - Enrichment Studies

MOLB 5960 - Thesis Research

MOLB 5980 - Dissertation Research

MOLB 5990 - Internship

Music

MUSC 0200 - Music Convocation

MUSC 1000 - Introduction to Music

MUSC 1003 - Historical Perspectives in Music I

MUSC 1007 - Hip-Hop/Pop Music Appreciation

MUSC 1009 - The Roots of Country Music

MUSC 1010 - Music Fundamentals

MUSC 1025 - Introduction to Music Education

MUSC 1030 - Written Theory I

MUSC 1035 - Aural Theory I

MUSC 1040 - Written Theory II

MUSC 1045 - Aural Theory II

MUSC 1080 - Baritone Horn I

MUSC 1090 - Bassoon I

MUSC 1100 - Cello I

MUSC 1110 - Clarinet I

MUSC 1120 - Double Bass I

MUSC 1130 - Flute I

MUSC 1140 - French Horn I

MUSC 1150 - Guitar I

MUSC 1160 - Harp I

MUSC 1170 - Oboe I

MUSC 1180 - Organ I

MUSC 1190 - Percussion I

MUSC 1200 - Piano I

MUSC 1210 - Saxophone I

MUSC 1220 - Trombone I

MUSC 1230 - Trumpet I

MUSC 1240 - Tuba I

MUSC 1250 - Violin I

MUSC 1260 - Viola I

MUSC 1270 - Voice I

MUSC 1280 - Collaborative Piano I

MUSC 1290 - Class Piano I

MUSC 1295 - Class Piano II

MUSC 1312 - Public School Tech: Brass

MUSC 1322 - Public School Tech: Percussion

MUSC 1332 - Public School Tech: Strings

MUSC 1340 - Public School Methods: Voice I

MUSC 1352 - Public School

Tech: Woodwinds

MUSC 1360 - Public School Methods: Guitar

MUSC 1370 - Marching Band

MUSC 1375 - Symphonic Band

MUSC 1380 - Wind Ensemble

MUSC 1390 - Jazz Ensemble 1

MUSC 1400 - Collegiate Choralel

MUSC 1403 - Vocal Jazz I

MUSC 1405 - Ensemble: Singing Statesmen I

MUSC 1407 - Happy Jacks I

MUSC 1415 - Bel Canto Women's Chorus

MUSC 1417 - Laramie Civic Chorus I

MUSC 1420 - Opera Theatre

MUSC 1430 - Symphony Orchestra I

MUSC 1435 - Audio Recording

MUSC 1440 - Chamber Orchestra I

MUSC 1450 - Percussion Ensemble

MUSC 1460 - Brass Ensemble

MUSC 1470 - Woodwind Ensemble

MUSC 1480 - Chamber Music I

MUSC 1490 - Ensemble

MUSC 2030 - Written Theory III

MUSC 2035 - Aural Theory III

MUSC 2040 - Written Theory IV

MUSC 2045 - Aural Theory IV

MUSC 2050 - Historical Perspectives in Music II

MUSC 2055 - Historical Perspectives III

MUSC 2080 - Bariton

e Horn II

MUSC 2090 - Bassoon II

MUSC 2100 - Cello II

MUSC 2110 - Clarinet II

MUSC 2120 - Double Bass II

MUSC 2130 - Flute II

MUSC 2140 - French Horn II

MUSC 2150 - Guitar II

MUSC 2160 - Harp II

MUSC 2170 - Oboe II

MUSC 2180 - Organ II

MUSC 2190 - Percussion II

MUSC 2200 - Piano II

MUSC 2210 - Saxophone II

MUSC 2220 - Trombone II

MUSC 2230 - Trumpet II

MUSC 2240 - Tuba II

MUSC 2250 - Violin II

MUSC 2260 - Viola II

MUSC 2270 - Voice II

MUSC 2290 - Class Piano III

MUSC 2295 - Class Piano IV

MUSC 2320 - Diction for Singers I

MUSC 2325 - Diction for Singers II

MUSC 2390 - Piano Literacy Exam

MUSC 2395 - Piano Proficiency

MUSC 2400 - Progressive Methods

MUSC 2435 - Advanced Audio Recording

MUSC 3015 - Introduction to Global Music

MUSC 3025 - Fundamentals of Jazz Improvisation

MUSC 3080 - Baritone Horn III

MUSC 3090 - Bassoon III

MUSC 3100 - Cello III

MUSC 3110 - Clarinet III

MUSC 3120 - Double Bass III

MUSC 3130 - Flute III

MUSC 3140 - French Horn III

MUSC 3150 - Guitar III

MUSC 3160 - Harp III

MUSC 3170 - Oboe III

MUSC 3180 - Organ III

MUSC 3190 - Percussion III

MUSC 3200 - Piano III

MUSC 3210 -

Saxophone III

MUSC 3220 - Trombone III

MUSC 3230 - Trumpet III

MUSC 3240 - Tuba III

MUSC 3250 - Violin III

MUSC 3255 - Sophomore Qualifying Performance Jury

MUSC 3260 - Viola III

MUSC 3265 - Music Education Proficiency Review

MUSC 3270 - Voice III

MUSC 3280 - Collaborative Piano II

MUSC 3380 - Wind Ensemble II

MUSC 3385 - World Music Ensemble

MUSC 3390 - Jazz Ensembles: Upper

MUSC 3400 - Collegiate Chorale II

MUSC 3405 - UW Singing Statesmen II

MUSC 3407 - Happy Jacks II

MUSC 3411 - Vocal Jazz II

MUSC 3415 - Bel Canto Women's Chorus II

MUSC 3417 - Laramie Civic Chorus II

MUSC 3430 - Symphony Orchestra II

MUSC 3440 - Chamber Orchestra II

MUSC 3450 - Percussion

Ensemble II

MUSC 3460 - Brass Ensemble II

MUSC 3470 - Woodwind Ensemble II

MUSC 3480 - Chamber Music II

MUSC 3490 - Piano Ensemble II

MUSC 3500 - Junior Recital

MUSC 3600 - Songwriting Methods

MUSC 3610 - Recordi

ng Lab III

MUSC 4000 - Careers in Music

MUSC 4001 - Music Entrepreneurship Seminar

MUSC 4002 - Arts Entrepreneurship Seminar

MUSC 4005 - Internship in Music Business

MUSC 4020 - Advanced Jazz Improvisation

MUSC 4025 -

Jazz Composition and Arranging

MUSC 4040 - Composition

MUSC 4050 - Advanced Studies in World Music

MUSC 4060 - Applied Composition Lessons

MUSC 4070 - Conducting

MUSC 4080 - Baritone Horn IV

MUSC 4090 - Bassoon IV

MUSC 4100 - Cello IV

MUSC 4110 - Clarinet IV

MUSC 4120 - Double Bass IV

MUSC 4130 - Flute IV

MUSC 4140 - French Horn IV

MUSC 4150 - Guitar IV

MUSC 4155 - Senior Music Education Recital

MUSC 4160 - Harp IV

MUSC 4170 - Oboe IV

MUSC 4180 - Organ IV

MUSC 4190 - Percussion IV

MUSC 4200 - Piano IV

MUSC 4210 - Saxophone IV

MUSC 4220 - Trombone IV

MUSC 4230 - Trumpet IV

MUSC 4240 - Tuba IV

MUSC 4250 - Violin IV

MUSC 4255 - Elementary and

Secondary Methods: Practicum

MUSC 4260 - Viola IV

MUSC 4265 - Elementary and Secondary Music Teaching Methods

MUSC 4270 - Voice IV

MUSC 4310 - Choral Arranging

MUSC 4315 - America's Ethnic Music

MUSC 4330 -

Undergraduate Seminar

MUSC 4345 - Contemporary Period

MUSC 4350 - History and Literature of Jazz

MUSC 4360 - Fundamentals of Audio for Music Production

MUSC 4365 - Recording Art and Technology

MUSC 4370 - Live Sound Reinforcement

MUSC 4375 - Audio Technology Capstone and Practicum

MUSC 4380 - Jazz Techniques

MUSC 4400 - Vocal Literature

MUSC 4455 - General Music Methods

MUSC 4460 - Choral Music Methods

MUSC 4465 - Instrumental Music Methods

MUSC 4490 - History of Rock and Roll

MUSC 4500 - Directed Independent Study-Undergraduate

MUSC 4510 - Applied Music Methods and Materials: Brass Instruments

MUSC 4520 - Applied Music Methods and Materials: Organ

MUSC 4525 - Recording Lab IV

MUSC 4530 - Applied Music Methods and Materials: Piano

MUSC 4560 - Applied Music Methods and Materials: Voice

MUSC 4590 - Senior Recital

MUSC 4615 - Instrumental Pedagogy

MUSC 4620 - Practicum in Music Education

MUSC 4625 - Piano

Pedagogy

MUSC 4635 - Vocal Pedagogy

MUSC 4650 - Keyboard Literature

MUSC 4651 - String Solo Literature

MUSC 4700 - Elementary Student Teaching in Music

MUSC 4705 - Elementary Music Ed Practicum

MUSC 4710 - Second

ary Student Teaching in Music

MUSC 4715 - Secondary Music Ed Practicum

MUSC 4730 - Music Technology Survey

MUSC 4750 - Marching Band Techniques

MUSC 4780 - Instrumental Conducting and Repertory

MUSC 4790 - Choral Conduc

ting and Reperto ry

MUSC 4990 - Topics in:

MUSC 5010 - Mentori ng the Pre-Service Music Educat or

MUSC 5035 - Advanc ed Theory

MUSC 5035 - Advanc ed Theory I

MUSC 5080 - Bariton e Horn V

MUSC 5090 - Bassoo n V

MUSC 5100 - Cello V

MUSC 5110 - Clarinet V

MUSC 5120 - Double Bass V

MUSC 5130 - Flute V

MUSC 5140 - French Horn V

MUSC 5150 - Guitar V

MUSC 5160 - Harp V

MUSC 5170 - Oboe V

MUSC 5180 - Organ V

MUSC 5190 - Percussion V

MUSC 5200 - Piano V

MUSC 5210 - Saxophone V

MUSC 5220 - Trombone V

MUSC 5230 - Trumpet V

MUSC 5240 - Tuba V

MUSC 5250 - Violin V

MUSC 5260 - Viola V

MUSC 5270 - Voice V

MUSC 5310 - Music Research Methods

MUSC 5320 -

Advanced Seminar

MUSC 5340 - Advanced Composition

MUSC 5350 - Advanced Analysis

MUSC 5360 - Pedagogy of Theory

MUSC 5370 - Advanced Choral Conducting

MUSC 5375 - Choral Techniques

MUSC 5380 - Advanced Instrum

ental Conducting

MUSC 5390 - Performance Practice and Interpretation

MUSC 5400 - Independent Study and Research

MUSC 5410 - History of Musical Instruments

MUSC 5480 - Baritone Horn VI

MUSC 5490 - Bassoon VI

MUSC 5500 - Cello VI

MUSC 5510 - Clarinet VI

MUSC 5520 - Double Bass VI

MUSC 5530 - Flute VI

MUSC 5540 - Guitar VI

MUSC 5550 - Harp VI

MUSC 5560 - French Horn VI

MUSC 5570 - Oboe VI

MUSC 5580 - Organ VI

MUSC 5590 - Percus sion VI

MUSC 5600 -

Piano VI

MUSC 5610 - Saxophone VI

MUSC 5615 - Capstone

MUSC 5620 - Trombone VI

MUSC 5625 - Piano Pedagogy

MUSC 5630 - Trumpet VI

MUSC 5635 - Vocal Pedagogy

MUSC 5640 - Tuba VI

MUSC 5650 - Violin VI

MUSC 5660 - Viola VI

MUSC 5670 - Voice VI

MUSC 5680 - Graduate Recital

MUSC 5690 - Advanced Teaching Methods

MUSC 5700 - Advanced Teaching Methods

MUSC 5710 - Advanced Teaching Methods

MUSC 5720 -

Musical Supervision: Choral

MUSC 5730 - Musical Supervision: Instruments

MUSC 5760 - Music Education Seminar

MUSC 5770 - Marching Band

MUSC 5780 - Wind Ensemble III

MUSC 5790 - Jazz Ensemble III

MUSC 5800 - Collegiate

Chorale III

MUSC 5805 - The UW Singing States men III

MUSC 5807 - Happy Jacks III

MUSC 5811 - Vocal Jazz III

MUSC 5815 - Bel Canto Women 's Chorus III

MUSC 5817 - Laramie Civic Chorus III

MUSC 5820 - Opera Theatre

MUSC 5830 -

Symphony Orchestra III

MUSC 5840 - Chamber Orchestra

MUSC 5850 - Percussion Ensemble

MUSC 5860 - Brass Ensemble III

MUSC 5870 - Woodwind Ensemble III

MUSC 5880 - Chamber Music III

MUSC 5885 - Collaborative

Piano III

MUSC 5920 - Continuing Registration: On Campus

MUSC 5940 - Continuing Registration: Off Campus

MUSC 5959 - Enrichment Studies

MUSC 5960 - Thesis Research

MUSC 5961 - Plan B Paper/Plan B Lecture - Recital

MUSC 5990 - Internship

Native American and Indigenous Studies

NAIS 1001 - Foundations in American Indian Studies

NAIS 1010 - Beginning Indigenous Language

NAIS 1030 - Social Justice in the 21st Century

NAIS 1350 - American Indians in Contemporary Society

NAIS 2010 - Intermediate Indigenous Language

NAIS 2060 - Topics

NAIS 2210 - North American Indians

NAIS 2290 - History of North American Indians

NAIS 2340 - Native American

Culture and Literature

NAIS 2345 - American Indians in Hollywood Film

NAIS 3000 - Plains Culture and History

NAIS 3010 - Proficient Indigenous Language

NAIS 3100 - Tribal Literatures of the Great Plains

NAIS 3200 - Indigenous

Peoples and the Environment

NAIS 3300 - Federal Indian Law

NAIS 3400 - Traditional Ecological Knowledge

NAIS 4000 - Indians of Wyoming

NAIS 4010 - Advanced Indigenous Language

NAIS 4020 - Internship

NAIS 4075 -

Culture, Identity, & Place

NAIS 4100 - Tribal Government

NAIS 4110 - Educational Foundations in American Indian Education

NAIS 4200 - Indigenous Communities Abroad: International Travel

NAIS 4340 - Natural Resource Management on Wester

n Reserv ations

NAIS 4360 - Americ an Indian Women

NAIS 4460 - Americ an Indian Literatu re

NAIS 4462 - Americ an Indian History to 1783

NAIS 4463 - Americ an Indian History 1783- 1890

NAIS 4464 - Americ an Indians in the Twentie

th Century

NAIS 4466 - American Indian Ethnohistory

NAIS 4468 - American Indians in the North American West

NAIS 4550 - American Southwest

NAIS 4740 - Native American Languages and Cultures

NAIS 4975 - Independent Study

NAIS 4990 - Special Topics

NAIS 5000 - Independent Study

NAIS 5110 - Foundations of American Indian Education

NAIS 5121 - History and Philosophy of American Indian Education

NAIS 5130 - Cultural Foundations of American Indian Education

NAIS 5141 - Instructional Methods of American Indian Education

NAIS 5360 - American Indian Women

NAIS 5462 - American Indian History to 1783

NAIS 5464 - American Indian History in the 20th Century

NAIS 5466 - American Indian Ethnohistory

Natural Science

NASC 4790 - Topics in Natural Science

NASC 4800 - Field Studies in Natural Science

NASC 5110 - Physical Science in Global Context, MSC

NASC 5120 - Earth Science in Global Context, MSC

NASC 5130 - Life Science

in Global Context, MSC

NASC 5140 - Numbers, Operations, and Patterns for the Middle-Level Learner, MMA

NASC 5160 - Social and Historical Issues in Mathematics and the Middle-Level Learner, MMA

NASC 5170 - Connecting Geometry with Problem-

Solving for the Middle-Level Learner, MMA

NASC 5185 - Analysis of Data in the Media for the Middle-Level Learner, MMA

NASC 5190 - Mathematics of Change and the Middle-Level Learner, MMA

NASC 5205 - Methods of Teaching Middle-Level Mathematics, MMA

NASC 5215 - Using Technology for Middle-Level Mathematics

NASC 5225 - Assessment for Middle-Level Mathematics, MMA

NASC 5300 - Classroom Assessment in Middle-level Science, MSC

NASC 5400 - Spatial Data Instructional Technology

NASC 5510 - Integrat

ed Instructional Strategies, MSC

NASC 5600 - Mathematics and Statistics in Science Teaching, MSC

NASC 5610 - Field Studies in Environmental Education, NED

NASC 5620 - Advanced Elements of Field Ecology Course Design, NED

NASC 5625 -

Place-Based Education-Teton Science School

NASC 5630 - Teaching Practicum-Teton Science School

NASC 5640 - Introduction to Field Science Teaching

NASC 5650 - Place-Based Learning

NASC 5660 - Standards, Pedagogy and Research

NASC 5670 - Research Methodology

NASC 5700 - Seminar in Science for Secondary School Teachers

NASC 5770 - Investigation in Natural Science for Secondary Teachers

NASC 5810 - ML Science & Math Practicum

NASC 5890 - Directed Profess

ional Study

NASC 5900 - Practicum in College Teaching

NASC 5920 - Continuing Registration: On Campus

NASC 5940 - Continuing Registration: Off Campus

NASC 5959 - Enrichment Studies

NASC 5960 - Thesis Research

NASC 5961 - Plan B Project

NASC 5990 - Internship

Neuroscience

NEUR 4295 - Neurodevelopment

NEUR 4720 - Neuroscience Speaker Seminar

NEUR 5100 - Structure and Function of the Nervous System

NEUR 5280 - Introduction to

Neuroscience

NEUR 5295 - Neurodevelopment

NEUR 5685 - Neurophysiology

NEUR 5715 - Seminar in Neuroscience

NEUR 5720 - Neuroscience Speaker Seminar

NEUR 5800 - Research in Neuroscience

NEUR 5887 - Molecular Neurop

harmacology

NEUR 5920 - Continuing Registration: On Campus

NEUR 5940 - Continuing Registration: Off Campus

NEUR 5960 - Thesis Research

NEUR 5980 - Dissertation Research

Nursing

NURS 1101 - First-Year

Seminar

NURS 2340 - Developmental Influences on Health

NURS 3005 - ReNEW Distance Foundations

NURS 3006 - BSN Completion Foundations

NURS 3425 - Bridging Nursing Paradigms

NURS 3445 - Fundamentals and Health Assessment in

Professional Nursing Practice

NURS 3490 - Health Promotion in Professional Nursing Practice

NURS 3635 - Health Assessment and Clinical Judgement

NURS 3665 - Foundations of Professional Nursing Roles

NURS 3690 - Professional Nursing Acute/Chronic Illness

NURS 3695 - Professional Nursing Acute/Chronic Illness Practicum

NURS 3730 - Introduction to Professional Nursing

NURS 3745 - Nursing Fundamentals and Health Assessment

NURS 3770 - Nursing Care in Acute and Chronic Illness

NURS 3771 - Nursing Care in Acute, Chronic

, and Complex Illness Practicum

NURS 3780 - Evidence-Based Practice in Nursing

NURS 3790 - Health Promotion of Individuals, Families, and Populations

NURS 3890 - Professional Nursing Care in Complex Illness

NURS 3891 - Professional Nursing Care of

Older Adults

NURS 3892 - Professional Nursing Care in Mental Health and Illness

NURS 3895 - Professional Nursing Care in Complex Illness Practicum

NURS 3970 - Nursing Externship

NURS 4055 - Application of Evidence in Nursing Practice

NURS 4125 -

Evidence-Based Nursing

NURS 4630 - Public/Community Health

NURS 4635 - Community as Client

NURS 4640 - Health Equity

NURS 4645 - Population Health

NURS 4660 - Healthcare Informatics

NURS 4665 - Healthcare Informatics in Professional

Nursing Practice

NURS 4690 - Professional Nursing Care of Populations

NURS 4691 - Professional Nursing Care of Children and Families

NURS 4695 - Professional Nursing Care of Populations Practicum

NURS 4710 - Population Health

NURS 4735 - Vulnera

ble Populat ions and Mental Health

NURS 4740 - Nursing Care of the Young Family

NURS 4750 - Indepe ndent Study in Nursing

NURS 4765 - Healthc are Informa tics in Nursing

NURS 4771 - Nursing Care of Familie s, Vulnera ble Populat ions, and Behavi oral

Health Practicum

NURS 4775 - Nursing Senior Capstone

NURS 4785 - Nursing Integration

NURS 4790 - Special Topics in Nursing

NURS 4792 - Cultural and International Health Care Immersion

NURS 4830 - Leadership in Healthcare Today

NURS 4835 - Leading Nursing Practice

NURS 4840 - Healthcare Systems and Policy

NURS 4845 - Innovation in Nursing Practice

NURS 4855 - Contemporary Nursing Practice

NURS 4865 - Professional Nursing Leadership

NURS 4895 - Professional

Nursing Capstone Practicum

NURS 5140 - Pharmacotherapy for Primary Care

NURS 5165 - DNP: Adv Pathophysiology

NURS 5420 - Leadership Within Health Care Systems

NURS 5425 - Health Policy for Rural and Global Population Health

NURS 5430 - Population Health

NURS 5452 - Curriculum Development

NURS 5461 - Business of Healthcare

NURS 5462 - Teaching Methodologies and Evaluation

NURS 5472 - Integrated Advanced Pathophysiology, Pharmacology, and Assessment

NURS 5473 - Advancing Healthcare Transform

NURS 5483 - Practicum: Rural Healthcare Leadership

NURS 5601 - Theoretical Foundations of Advanced Nursing Practice

NURS 5602 - Advanced Nursing Leadership

NURS 5603 - Evidence-based

Practice for Advanced Nursing

NURS 5604 - Population and Health Policies

NURS 5605 - Informatics and Quality Improvement for Advanced Nursing Practice

NURS 5750 - Independent Advanced Study

NURS 5790 - Advanced Issues in Health

NURS 5820 - Health Behavior Change I: Primary Prevention and Wellness

NURS 5824 - Advanced Health Assessment and Clinical Decision-Making for Nurse Practitioners

NURS 5825 - Advanced Health Assessment and Clinical Decision-Making for Family

Nurse Practitioners

NURS 5826 - Advanced Health Assessment for Psych NPs

NURS 5827 - Skills for Family NP

NURS 5828 - Skills for Psychiatric Mental Health Nurse Practitioners

NURS 5830 - Health Behavior Change II: Behavioral Skills

for Secondary and Tertiary Prevention

NURS 5862 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP I

NURS 5863 - Practicum: Diagnosis and Management of the Psychiatric Client for the PMHNP II

NURS 5864 - Final PSH

Practicum

NURS 5865 - DNP Seminar

NURS 5866 - DNP Seminar II

NURS 5871 - Wellness for Adults in Primary Care

NURS 5872 - Practicum for Wellness in Primary Care

NURS 5873 - Primary Care for Children, Adolescents, and

Families

NURS 5874 - Practicum for Primary Care for Children, Adolescents, and Families

NURS 5875 - Primary Care for Acute & Chronically Ill Adults

NURS 5876 - Practicum for Primary Care for Acute & Chronically Ill Adults

NURS 5877 - Primary Care

for Acute & Chronically Ill Adults II

NURS 5878 - Practicum for Primary Care for Acute & Chronically Ill Adults II

NURS 5880 - Neurobiology & Psychopharm

NURS 5881 - Psychotherapy Models and Theories for Advanced Practice Mental Health Nursing

NURS 5882 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Adult, Older Adult, and Vulnerable Populations

NURS 5883 - Advanced Psychiatric Mental Health Nursing Diagnosis and Management for the Child and Adolescent

NURS 5891 -

Doctor of Nursing Project I

NURS 5892 - Doctor of Nursing Project II

NURS 5893 - Doctor of Nursing Project III

NURS 5894 - Doctor of Nursing Project IV

NURS 5900 - Practicum in College Teaching

NURS 5940 - Continuing Registration:

Off Campus

NURS 5960 - Thesis Research

Online Master of Business Administration

MBAX 5103 - Business Research Methods

MBAX 5104 - Organizational Behavior and Human Resource Management

MBAX 5108 - Financial Accounting

MBAX 5202 - Data and Decision Modeling

MBAX 5203 - New Ventures

MBAX 5204 - Financial Management

MBAX 5207 - Marketing Management

MBAX 5208 - Accounting for Managers

MBAX 5305 - Strategic Management

MBAX 5330 - The Global Business Environment

MBAX 5434 - Macro Economic Analysis

MBAX 5444 - Project Management

MBAX 5454 - International Marketing

MBAX 5464 - Digital Marketing

MBAX 5502 - Energy Finance: Project Evaluation

MBAX 5503 - Fundamentals of Accounting in the Energy Industry

MBAX 5504 - Supply Chain Management in the Energy Industry

MBAX 5750 - Fundamentals of Financial Planning

Outdoor

Recreation and Tourism Management

ORTM 1000 - Foundations of Recreation and Tourism

ORTM 1010 - Wellness Through Recreation

ORTM 1050 - Natural and Cultural Resources of the West

ORTM 2000 - Foundations of Custom

er Service and Hospitality

ORTM 2010 - Financial Management in Outdoor Recreation and Tourism Management

ORTM 2050 - Program Planning, Design and Delivery

ORTM 2410 - Outdoor Leadership

ORTM 3000 - Tourism Theory

and Practice

ORTM 3050 - Conservation Planning for Tourism & Recreation

ORTM 4050 - Global Tourism

ORTM 4400 - Behavior Management and Mental Health Promotion for Outdoor Professionals

ORTM 4890 - Topics in ORTM

ORTM 4900 - Outdoor Recreation and Tourism Management Business Strategies

ORTM 4901 - Human Dimensions of Outdoor Recreation and Tourism Management

ORTM 4902 - Recreation Venue Operations

ORTM 4903 - Capstone

ORTM 4970 -

Internship

ORTM 4975 - Independent Study

ORTM 5030 - Social Psychology of Recreation and Liesure

ORTM 5050 - Global Tourism

ORTM 5400 - Behavior Management and Mental Health Promotion for Outdoor Professionals

ORTM 5890 - Topics

in ORTM

ORTM 5901 - Human Dimensions of Outdoor Recreation and Tourism Management

Pathobiology

PATB 1101 - First-Year Seminar

PATB 2100 - Introduction to Laboratory Diagnosis

PATB 2220 - Pathogenic Microbiology

PATB 2400 - Host Defenses Against Infection

PATB 3021 - Eukaryotic Microbes

PATB 3400 - Host Defenses Against Infect.

PATB 4001 - Epidemiology (Diseases in Population)

PATB 4050 - Problems in Animal Disease

PATB 4110 - Diseases of

Food Animals

PATB 4111 - Equine Health and Disease

PATB 4130 - Mammalian Pathobiology

PATB 4140 - Principles of Toxicology

PATB 4150 - Seminar

PATB 4170 - Diseases of Wildlife

PATB 4220 - Molecular Mechanisms of Bacterial

Pathogenesis

PATB 4240 - Disease Ecology

PATB 4300 - Microscopic Anatomy

PATB 4320 - Problems in Parasitology

PATB 4400 - Immunology

PATB 4500 - Veterinary Parasitology

PATB 4710 - Medical Virology

PATB 5001 - Epidem

iology (Diseases in Population)

PATB 5110 - Diseases of Food Animals

PATB 5111 - Equine Health and Disease

PATB 5120 - Topics in Pathobiology

PATB 5130 - Mammalian Pathobiology

PATB 5170 - Diseases of Wildlife

PATB 5220 - Molecul

ar Mechanisms of Bacterial Pathogenesis

PATB 5240 - Disease Ecology

PATB 5300 - Microscopic Anatomy

PATB 5400 - Immunology

PATB 5500 - Veterinary Parasitology

PATB 5505 - Investigations in Pathobiology

PATB 5510 - Introdu

ctory Virology

PATB 5515 - Advanced Seminar in Pathobiology

PATB 5710 - Medical Virology

PATB 5900 - Practicum in College Teaching

PATB 5920 - Continuing Registration: On Campus

PATB 5940 - Continuing Registration: Off

Campus

PATB 5959 - Enrichment Studies

PATB 5960 - Thesis Research

PATB 5980 - Dissertation Research

Petroleum Engineering

PETE 1060 - Introduction to Petroleum Engineering Problem Solving

PETE 2050 - Funda

mentals of Petroleum Engineering

PETE 2060 - Computing and Data Mining

PETE 2070 - Geology/Geophysics for Petroleum Engineers

PETE 3015 - Phase Behavior of Reservoir Fluids

PETE 3025 - Heat and Mass Transfer

PETE 3100 -

Rock and Fluids Lab

PETE 3110 - Reservoir Petrophysics

PETE 3200 - Reservoir Engineering

PETE 3255 - Basic Drilling Engineering

PETE 3265 - Drilling Fluids Laboratory

PETE 3715 - Production Engineering

PETE 3725 - Well Comple

tion and Stimulation

PETE 3890 - Engineering Honors Program Research Methods

PETE 3900 - Undergraduate Research in Petroleum Engineering

PETE 4000 - Environment, Technology and Society

PETE 4030 - Rock and Fluid Properties

PETE 4050 - Life Cycle Analysis

PETE 4060 - Flow through Porous Media

PETE 4200 - Natural Gas Engineering

PETE 4215 - Rock Mechanics

PETE 4220 - Geostatistics and Subsurface Characterization

PETE 4225 - Well Test Analysis

PETE 4235 - Reservoir Geomechanics

PETE 4300 - Reservoir Simulation

PETE 4310 - Fundamentals of EOR

PETE 4320 - Well Log Interpretation

PETE 4330 - Geostatistics and Subsurface Characterization

PETE 4340 - Petroleum Economics

and Law

PETE 4400 - Tight Gas Sand/Coalbed Methane

PETE 4450 - Unconventional Reservoirs

PETE 4580 - Honors Undergraduate Research

PETE 4736 - Petroleum Engineering Design

PETE 4800 - Shale Reservoir Development

PETE 4810 - Unconventional Gas Production

PETE 4820 - Blockchain in Energy

PETE 4830 - Thermal Recovery

PETE 4860 - Energy, Environment, and Materials

PETE 4970 - Internship in Petroleum Engineering

PETE 4990 - Topics in Petrole

um Engineering

PETE 5010 - Transport Phenomena

PETE 5020 - Thermodynamics

PETE 5050 - Life Cycle Analysis

PETE 5055 - Drilling Engineering

PETE 5060 - Flow through Porous Media

PETE 5070 - Multiphase Flow

PETE 5080 - Interfacial Phenomena

PETE 5090 - Graduate Research Methods

PETE 5100 - Independent Study

PETE 5150 - Topics in Petroleum Engineering

PETE 5200 - Problems in Petroleum Engineering

PETE 5215 - Electronics I

Laboratory

PETE 5220 - Geostatistical/Subsurface Characterization

PETE 5255 - Advanced Drilling Engineering

PETE 5255 - Advanced Drilling Engineering

PETE 5300 - Reservoir Simulation

PETE 5310 - Fundamentals of EOR

PETE 5340 -

Reservoir Engineering.

PETE 5350 - Advanced Reservoir Engineering

PETE 5355 - Mathematical Methods

PETE 5400 - Tight Gas Sand/Coalbed Methane

PETE 5450 - Unconventional Reservoirs

PETE 5715 - Production Engineering

PETE 5800 - Shale Reservoir Development

PETE 5810 - Unconventional Gas Production

PETE 5830 - Thermal Recovery

PETE 5840 - Miscible Processes

PETE 5850 - Chemical Enhanced Oil Recovery Processes

PETE 5860 - Energy,

Environment, and Materials

PETE 5890 - Petroleum Engineering Graduate Seminar

PETE 5900 - Practicum in College Teaching

PETE 5920 - Continuing Registration: On Campus

PETE 5940 - Continuing Registration: Off Campus

PETE 5959 - Enrichment Studies

PETE 5960 - Thesis Research

PETE 5970 - MS Plan B Research Project

PETE 5980 - Dissertation Research

PETE 5990 - Internship

Pharmacy

PHCY 1101 - First-Year Seminar

PHCY 3450 -

Foundational Pathophysiology

PHCY 4050 - Introduction to Evolution of American Health Services

PHCY 4141 - Health Economics and Outcomes

PHCY 4160 - Problems in Pharmacy

PHCY 4170 - Pharmacy Seminar

PHCY 4210 - Regulat

ing Danger ous Drug Use

PHCY 4240 - Pharma ceutical Homici de

PHCY 4241 - Biophar maceuti cal Regulat ory Compli ance

PHCY 4341 - Intro to Healthc are Quality

PHCY 4441 - Intro Health Instituti on Leader ship

PHCY 4470 - Funda mentals of

Pharmacology

PHCY 4670 - Medication Malpractice

PHCY 5040 - The Evolution of American Health

PHCY 5041 - Health Services Administration Research Methods

PHCY 5042 - Statistics for Health Services

PHCY 5043 - Empirical Analysi

s for Health Services Administration

PHCY 5044 - Preventing Fraud/ Waste/ Abuse

PHCY 5045 - Health Services Administration Applied Research

PHCY 5046 - Health Services Administration Seminar1

PHCY 5047 - Pandemic Preparedness Policy

PHCY 5141 - Principles of Health Econ and Outcomes

PHCY 5142 - Health Economic Decision Analysis

PHCY 5143 - Comparative Effectiveness Research

PHCY 5144 - Patient Reported Outcomes

PHCY 5145 - PBM Decisions

PHCY 5146 - HEOR Data Analytics

PHCY 5147 - HEOR Data Analystics

PHCY 5148 - Health Economics and Policy

PHCY 5160 - Graduate Problems Course

PHCY 5210 - Regulating Dangerous Drug Use

PHCY 5240 - Pharmaceutical

Homicide

PHCY 5241 - Principles for Biopharmaceutical Regulatory Compliance

PHCY 5242 - The Food and Drug Administration

PHCY 5243 - The Drug Enforcement Administration

PHCY 5244 - State Regulations of Health Professions

PHCY 5245 -

Medicare and Medicaid

PHCY 5246 - Prescription Drug Costs

PHCY 5247 - HIPAA Compliance

PHCY 5248 - Professional and Graduate Students.

PHCY 5249 - Clinical Research Regulation

PHCY 5269 - Healthcare Entrepreneur/Innov

PHCY 5341 - Principles of Healthcare Quality

PHCY 5342 - Healthcare Risk and Quality

PHCY 5343 - Advanced Topics in Healthcare Quality

PHCY 5441 - Introduction to Health Leadership

PHCY 5442 - Healthcare Financial Planning

PHCY 5443 - Healthcare Human Capital Plan

PHCY 5444 - Healthcare Strategic Innovation

PHCY 5541 - Introduction to Biopharmaceutical Marketing and Production

PHCY 5550 - Advanced Cardiovascular Physiology and Pharmacology

PHCY 5660 - Health

Care Law

PHCY 5670 - Medication Malpractice

PHCY 5887 - Molecular Neuropharmacology

PHCY 5920 - Agents for Diagnostic Imaging

PHCY 6040 - Post-Graduate Career Planning

PHCY 6051 - Topics in Illicit Drugs

PHCY 6052 -

Geriatric Pharmacotherapy

PHCY 6053 - Biotechnology

PHCY 6054 - Infectious Diseases

PHCY 6055 - Drug Information Resources

PHCY 6056 - Pharmacogenomics: Clinical Patient-Case Application

PHCY 6100 - Dose Form Design

PHCY 6102 - Biopharmaceutics and Pharmacokinetics

PHCY 6106 - Pharmaceutical Calculations

PHCY 6110 - Medicinal and Natural Products Chemistry I

PHCY 6111 - Medicinal and Natural Products Chemistry II

PHCY 6120 - Advanced Pathophysiology

PHCY 6140 - Introduction to Social Administrative Pharmacy

PHCY 6151 - Pharmacy Practice

PHCY 6152 - Therapeutics I

PHCY 6160 - Pharmacist Skills I

PHCY 6161 - Pharmacist Skills II

PHCY 6170 - Introductory Pharmacy Practice Experie

nce-IPPE1

PHCY 6215 - Medicinal and Natural Products Chemistry III

PHCY 6230 - Pharmacology I

PHCY 6231 - Pharmacology II

PHCY 6240 - Research and Evaluation Methods in Pharmacy

PHCY 6241 - Organizational and Societal Issues Within the

Health Care System

PHCY 6245 - Patient/ Professional Interactions

PHCY 6246 - Pharmacy Management, Marketing and Finance

PHCY 6251 - Therapeutics II

PHCY 6260 - Pharmacist Skills III

PHCY 6261 - Pharmacist Skills IV

PHCY 6270 - Introductory

Pharmacy Practice Experience 2 - IPPE2

PHCY 6280 - Seminar: Pharmacy Ethics

PHCY 6281 - Pharmacy Research Ethics

PHCY 6300 - Sterile Products

PHCY 6301 - Sterile Products Laboratory

PHCY 6312 - Clinical Toxicology

PHCY 6340 - Health Care Policy and Advocacy

PHCY 6341 - Pharmacy Practice Law

PHCY 6343 - Methods for Population Health

PHCY 6344 - Pharmacy Ethics

PHCY 6350 - Therapeutics III

PHCY 6351 - Therapeutics IV

PHCY 6353 -

Drug Literature Application

PHCY 6356 - Physical Assessment in the Evaluation of Drug Therapy

PHCY 6357 - Clinical Pharmacokinetics

PHCY 6360 - Pharmacist Skills V

PHCY 6361 - Pharmacist Skills VI

PHCY 6370 - Introductory Pharma

cy Practice Experience 3 - IPPE3

PHCY 6465 - Elective Rotation In:

PHCY 6470 - Internal Medicine I

PHCY 6471 - Internal Medicine II

PHCY 6473 - Ambulatory Pharmaceutical Care

PHCY 6474 - Ambulatory Pharmacy Care II

PHCY 6480 - Introdu

ction to Commu nity Pharma cy Practic e

PHCY 6481 - Advanc ed Commu nity Pharma cy

PHCY 6482 - Introdu ction to Hospita l Pharma cy Practic e

PHCY 6483 - Advanc ed Instituti onal Pharma cy

PHCY 6485 - Reflecti ve Learnin g in

Pharmacy

PHCY 6550 - Advanced Cardiovascular Physiology and Pharmacology

Philosophy

PHIL 1000 - Introduction to Philosophy

PHIL 1101 - First-Year Seminar

PHIL 2100 - The Greek Mind

PHIL 2300 - Ethics in Practice

PHIL 2310 - Philosophy of Religion

PHIL 2330 - Environmental Ethics

PHIL 2342 - Philosophy and Science Fiction

PHIL 2345 - Natural Resource Ethics

PHIL 2420 - Critical Thinking

PHIL 3000 - Special Topics

PHIL 3100 - History of Modern

Philosophy: The Rationalists

PHIL 3110 - History of Modern Philosophy: The Empiricists

PHIL 3120 - Ancient Greek Philosophy

PHIL 3140 - Philosophy of Science

PHIL 3160 - "What Killed Socrates?"

PHIL 3220 - Existentialism and Pheno

menology

PHIL 3250 - Global Justice

PHIL 3260 - Seeking Justice and Equality

PHIL 3300 - Ethical Theory

PHIL 3320 - Eastern Thought

PHIL 3340 - Philosophy in Literature

PHIL 3350 - History of Moral Philosophy

PHIL 3420 - Symbolic Logic

PHIL 3440 - Philosophy of Mind

PHIL 3500 - History of Science

PHIL 3510 - Introduction to Epistemology

PHIL 3560 - Introduction to Metaphysics

PHIL 3933 - African Philosophy

PHIL 4000 - Philosophical Issues

PHIL 4020 - Plato

PHIL 4030 - Aristotle

PHIL 4040 - Kant

PHIL 4110 - Figures in Contemporary Philosophy

PHIL 4120 - Philosophy and the 20th Century

PHIL 4130 - Figures in Modern and 19th Century Philosophy

PHIL 4140 - Topics

in Philosophy of Science

PHIL 4190 - Philosophy of Language

PHIL 4270 - Buddhist Ethics

PHIL 4300 - Topics in Ethics

PHIL 4340 - Issues in Environmental Ethics

PHIL 4420 - Advanced Logic

PHIL 4440 - Topics in Philosophy of

the Mind

PHIL 4510 - Theory of Knowledge

PHIL 4560 - Metaphysics

PHIL 4975 - Independent Study

PHIL 5000 - Philosophical Issues

PHIL 5020 - Plato

PHIL 5030 - Aristotle

PHIL 5040 - Kant

PHIL 5120 - Philosophy

and the Twentieth Century

PHIL 5130 - Figures in Modern and 19th Century Philosophy

PHIL 5140 - Topics in Philosophy of Science

PHIL 5190 - Philosophy of Language

PHIL 5300 - Topics in Ethics

PHIL 5340 - Issues in Environmental Ethics

PHIL 5420 - Advanced Logic

PHIL 5440 - Topics in the Philosophy Of Mind

PHIL 5510 - Theory of Knowledge

PHIL 5550 - Independent Study

PHIL 5560 - Metaphysics

PHIL 5900 - Practicum in College Teaching

PHIL 5920 - Continuing

Registration: On Campus

PHIL 5940 - Continuing Registration: Off Campus

PHIL 5959 - Enrichment Studies

PHIL 5960 - Thesis Research

PHIL 5990 - Internship

Physical Education Activity

PEAC 1001 - Physica

l Activity and Your Health

PEAC 2000 - Wellness: Physical, Nutrition, and Lifestyle Concepts

Physics

PHYS 1050 - Concepts of Physics

PHYS 1090 - The Fundamentals of the Physical Universe

PHYS 1101 - First-Year

**Semina
r**

**PHYS
1110 -
General
Physics
I**

**PHYS
1120 -
General
Physics
II**

**PHYS
1210 -
Engine
ering
Physics
I**

**PHYS
1220 -
Engine
ering
Physics
II**

**PHYS
1310 -
College
Physics
I**

**PHYS
1320 -
College
Physics
II**

**PHYS
2250 -
Themo**

dynamic Systems in Energy Science

PHYS 2310 - Physics III: Waves and Optics

PHYS 2320 - Physics IV: Modern Physics

PHYS 2490 - Special Topics in:

PHYS 3000 - Methods of Physics

PHYS 3640 - Modern Electronics and Experimental Techniques

PHYS 3650 - Advanced Lab in Modern Physics and Electronics

PHYS 4000 - Applied Laser Science

PHYS 4210 - Classical Mechanics I

PHYS 4220 - Classical Mechanics II

PHYS 4310 - Quantum Mechanics

PHYS 4340 - Semiconductor Material

s and Devices

PHYS 4350 - Advanced Quantum Mechanics

PHYS 4410 - Electricity and Magnetism I

PHYS 4420 - Electricity and Magnetism II

PHYS 4510 - Thermodynamics and Statistical Mechanics

PHYS 4710 - Solid-State Physics

PHYS 4720 -

Solid State Electronic Devices

PHYS 4830 - Mathematical and Computational Physics I

PHYS 4840 - Mathematical and Computational Physics II

PHYS 4860 - Independent Study in:

PHYS 4870 - Special Topics in:

PHYS 4970 - Senior Resear

ch/Internship

PHYS 5110 - Methods of Theoretical Physics I

PHYS 5120 - Methods of Theoretical Physics II

PHYS 5130 - Ultrafast Science and Spectroscopy

PHYS 5210 - Classical Mechanics

PHYS 5220 - Classical Mechanics II

PHYS 5230 - Advanced Classical Mechanics

PHYS 5310 - Quantum Theory I

PHYS 5320 - Quantum Theory II

PHYS 5410 - Electromagnetic Theory I

PHYS 5420 - Electromagnetic Theory II

PHYS 5510 - Statistical

Mechanics

PHYS 5610 - Atomic and Molecular Spectroscopy

PHYS 5620 - Atomic Physics

PHYS 5720 - Advanced Solid State Physics

PHYS 5730 - Condensed Matter Magnetism

PHYS 5740 - Transport Properties of Solids

PHYS 5750 - Optical

Properties of Solids

PHYS 5770 - Nanotechnology: Nanophysics and Nanosystems

PHYS 5810 - Nuclear and Elementary Particle Physics

PHYS 5820 - Plasma Physics

PHYS 5830 - Physics of Solar Cells

PHYS 5840 - Experimental Methods and Low Temperature

PHYS 5860 - Independent Study

PHYS 5870 - Special Topics In Physics

PHYS 5900 - Practicum in College Teaching

PHYS 5920 - Continuing Registration: On Campus

PHYS 5940 - Continuing Registration: Off Campus

PHYS 5959 - Enrich

ment Studies

PHYS 5960 - Thesis Research

PHYS 5980 - Dissertation Research

PHYS 5990 - Internship

Plant Sciences

PLNT 1000 - Agroecology

PLNT 1101 - First-Year Seminar

PLNT 1150 - Pesticide Safety and

Application

PLNT 2025 - Horticultural Science

PLNT 2026 - Horticultural Sciences Laboratory

PLNT 2200 - Field Crop Production

PLNT 3000 - Irrigated Agriculture

PLNT 3030 - Ecological Web: Ecology of Plant Protection

PLNT 3036 - Grape Production

PLNT 3220 - Plant Pathology

PLNT 3300 - Horticultural Plant Propagation

PLNT 4000 - Plant Disease Control

PLNT 4020 - Sustainable Agriculture

PLNT 4050 - Plant Biotechnology

PLNT 4070 - Weed Science and

Technology

PLNT 4120 - Organic Food Production

PLNT 4130 - Applied Remote Sensing

PLNT 4180 - Greenhouse Crop Production

PLNT 4190 - Herbs, Spices and Medicinal Plants

PLNT 4200 - Greenhouse Design and Management

PLNT 4220 - Crop Yield Physiology

PLNT 4400 - Invasive Plant Ecology

PLNT 4470 - Seed Science and Technology

PLNT 4520 - Plant Breeding

PLNT 4700 - Forage Crop Science

PLNT 4790 - Topics:

PLNT 4820 - Plant Sciences

Seminar

PLNT 4900 - Undergraduate Teaching Practicum

PLNT 4920 - Research Apprenticeship

PLNT 4930 - Internship in Plant Sciences

PLNT 4960 - Plant Sciences Field Studies

PLNT 4975 - Problems in Plant Sciences

PLNT 4990 -

Plant Sciences Capstone

PLNT 5000 - Plant Disease Control

PLNT 5020 - Sustainable Agriculture

PLNT 5050 - Plant Biotechnology

PLNT 5070 - Weed Science and Technology

PLNT 5080 - Applied Statistical Programming for the Plant Sciences

PLNT 5120 - Organic Food Production

PLNT 5180 - Greenhouse Crop Production

PLNT 5190 - Herbs, Spices and Medicinal Plants

PLNT 5200 - Greenhouse Design and Management

PLNT 5400 - Invasive Plant Ecology

PLNT 5410 - Advanced Crop

Physiology and Management

PLNT 5470 - Seed Science and Technology

PLNT 5500 - Clinical Plant Pathology

PLNT 5600 - Research in Crops

PLNT 5700 - Forage Crop Science

PLNT 5720 - Plant Disease Problems

PLNT 5790 - Topics:

PLNT 5820 - Graduate Seminar

PLNT 5900 - Practicum in College Teaching

PLNT 5920 - Continuing Registration: On Campus

PLNT 5940 - Continuing Registration: Off Campus

PLNT 5960 - Thesis Research

PLNT 5980 - Dissert

ation Research

Political Science

PBAD 5000 - Survey of Public Administration

PBAD 5400 - Public Personnel Management

PBAD 5410 - Administrative Behavior and Theory of Organization

PBAD 5440 - Principles and Processes of Govern

ment Budgeting

PBAD 5460 - Public Administration and Law

PBAD 5465 - Survey of the Nonprofit Sector

PBAD 5480 - Ethics In Government

PBAD 5500 - Internship in Public Administration

PBAD 5510 - Public Policy and Program Management

PBAD 5540 - Public Policy Perspectives

PBAD 5560 - Public Administration in Literature and Film

PBAD 5684 - Empirical Analysis for Public Administration

PBAD 5690 - Capstone in Public Management

POLS 1000 - American and Wyoming Government

POLS 1100 - Wyoming Government

POLS 1101 - First-Year Seminar

POLS 1111 - Issues in Political Science

POLS 1200 - Non-Western Political Cultures

POLS 1250 - Introduction to Comparative Government

POLS 2000 - Current

Issues in American Government

POLS 2070 - Politics of State and Local Government

POLS 2200 - Politics of Europe

POLS 2290 - Governments and Politics of Latin America

POLS 2310 - Introduction to International Relations

POLS 2330 - Environ

mental Ethics

POLS 2410 - Introduction to Public Administration

POLS 2420 - Women and Politics

POLS 2430 - Parties, Interest Groups and Elections

POLS 2450 - Politics and Media

POLS 2460 - Introduction to Political Philosophy

POLS 2490 -

Topics In:

POLS 3050 - Athenian Democracy

POLS 3100 - Politics and the Judicial Process

POLS 3200 - Comparative Political Cultures

POLS 3220 - Government and Politics of Russia and FSU

POLS 3260 - Seeking Justice and

Equality

POLS 3270 - Governments and Politics of the Middle East

POLS 3300 - Model United Nations

POLS 3520 - Voting and Participation in America

POLS 3550 - Political Communication

POLS 3600 - American Political Thought

POLS 3610 - Classics in Environmental Thought

POLS 3620 - Environmental Justice

POLS 3680 - Introduction to Empirical Political Analysis

POLS 4013 - Political Geography

POLS 4051 - Environmental Politics

POLS 4052 - Federal Land Politics

POLS 4090 - Anglo-American Jurisprudence

POLS 4100 - Constitutional Law: Institutional Powers

POLS 4110 - Constitutional Law: Civil Liberties and Rights

POLS 4160 - Legal Philosophy

POLS 4215 - European Union

POLS 4230 - Governments and

Politics of Asia

POLS 4255 - Politics of Developing Nations

POLS 4260 - Democratization and Regime Change

POLS 4280 - Comparative Criminal Justice

POLS 4290 - Inter-American Relations

POLS 4330 - American Foreign Relations

POLS 4340 - International Organizations

POLS 4350 - Sustainable Development and Global Policy

POLS 4360 - International Peace and Conflict

POLS 4375 - Transitional Justice

POLS 4385 - Environment and Resource Conflict

POLS 4420 - Seminar in

Public Administration

POLS 4430 - United States Presidency

POLS 4435 - Presidential Elections

POLS 4445 - Drug War Geopolitics in the Americas

POLS 4455 - Energy Security

POLS 4465 - Survey of the Nonprofit Sector

POLS 4475 -

Politics of Natural Resources in Latin America

POLS 4520 - Public Opinion

POLS 4530 - U.S. Congress

POLS 4550 - Internship in Government

POLS 4555 - Political Ecology

POLS 4560 - Washington Semester Program

POLS 4600 - Political Violence

POLS 4630 - Gender & Politics

POLS 4640 - Political Philosophy: Ancient and Medieval

POLS 4650 - Political Philosophy: Modern

POLS 4660 - Political Philosophy: Contemporary

POLS 4685 - Progra

m Evaluation and Policy Analysis

POLS 4700 - Readings in Political Science

POLS 4705 - Terrorism

POLS 4710 - Topics in

POLS 4720 - Workshop in Practical Politics

POLS 4810 - Seminar in Political Philosophy

POLS 4840 -

Seminar in Public Law

POLS 4850 - Seminar in American Politics and Institutions

POLS 4870 - Seminar in International Relations

POLS 4890 - Seminar in Comparative Government and Politics

POLS 5013 - Political Geography

POLS 5051 - Environmental Politics

POLS 5060 - American Intergovernmental Relations

POLS 5090 - Anglo-American Jurisprudence

POLS 5100 - Constitutional Law: Institutional Powers

POLS 5110 - Constitutional Law: Civil Liberties and Civil Rights

POLS 5160 - Legal Philosophy

POLS 5210 - Seminar in Human Security

POLS 5215 - European Union

POLS 5230 - Governments and Politics Of Asia

POLS 5255 - Politics of Developing Nations

POLS 5260 - Democratization and Regime Change

POLS 5290 - Inter-American Relations

POLS 5330 - American Foreign Relations

POLS 5340 - International Organizations

POLS 5350 - Sustainable Development and Global Policy

POLS 5360 - International Peace and Conflict

POLS 5375 - Transiti

onal Justice

POLS 5385 - Environment and Resource Conflict

POLS 5420 - Seminar In Public Administration

POLS 5430 - United States Presidency

POLS 5435 - Presidential Elections

POLS 5445 - Drug War Geopolitics in the Americas

POLS 5450 - Administrative Regulation

POLS 5455 - Energy Security

POLS 5475 - Politics of Natural Resources in Latin America

POLS 5520 - Public Opinion

POLS 5530 - USCongress

POLS 5555 - Political Ecology

POLS 5570 - Gradua

te Readin gs

POLS 5600 - Politica l Violenc e

POLS 5640 - Politica l Philoso phy: Ancient and Mediev al

POLS 5650 - Politica l Philoso phy: Modern

POLS 5660 - Politica l Philoso phy: Contem porary

POLS 5680 - Resear ch Method

s for Politica l Science

POLS 5681 - Method s of Politica l Analysi s

POLS 5685 - Progra m Evaluat ion and Policy Analysi s

POLS 5690 - Capsto ne in Public Manage ment

POLS 5710 - Topics In Politica l Science

POLS 5810 - Semina r in

Political Philosophy

POLS 5840 - Seminar in Public Law

POLS 5850 - Seminar in American Politics and Institutions

POLS 5870 - Seminar in International Relations

POLS 5890 - Seminar in Comparative Government and Politics

POLS 5900 - Practicum in College Teaching

POLS 5920 - Continuing Registration: On Campus

POLS 5940 - Continuing Registration: Off Campus

POLS 5959 - Enrichment Studies

POLS 5960 - Thesis Research

POLS 5990 - Internship

Professional Sales

SELL 3310 - Professional and Technical Selling

SELL 4310 - Advanced Selling

SELL 4320 - Sales Force Strategies

SELL 4330 - Sales Seminar

SELL 4340 - Professional Sports Sales

SELL 4900 - Indepe

ndent Study in Professional Selling

SELL 4910 - Topics in Professional Selling

Professional Studies

PRST 5070 - Introduction to College Teaching

PRST 5610 - Introduction to Doctoral Studies

PRST 5880 - Special Problems

PRST 5890 - Directed Professional Study

PRST 5900 - Practicum in College Teaching

PRST 5920 - Continuing Registration: On Campus

PRST 5940 - Continuing Registration: Off Campus

PRST 5960 - Thesis Research

PRST 5980 -

Dissertation Research

PRST 5990 - Internship

Psychology

PSYC 1000 - General Psychology

PSYC 2000 - Research Psychological Methods

PSYC 2080 - Biological Psychology

PSYC 2210 - Drugs and Behavior

PSYC 2300 -

Psychology of Child Development

PSYC 2340 - Psychopathology

PSYC 2380 - Social Psychology

PSYC 3120 - Cognitive Psychology

PSYC 3150 - Moral Development

PSYC 3250 - Health Psychology

PSYC 3300 - Psychology of Gender

PSYC 3400 - Community Resources for Older Adults

PSYC 4040 - Cognitive Neuroscience

PSYC 4070 - Motivation

PSYC 4150 - Cognitive Development

PSYC 4200 - Sensation and Perception

PSYC 4250 - Psychological Aspects of Chronic Illness

PSYC 4300 - Adolescent Development

PSYC 4310 - Developmental Psychopathology

PSYC 4320 - Intellectual Disability

PSYC 4350 - Psychology of Adulthood

PSYC 4370 - Criminal Psychopathology

PSYC 4380 - Death and Dying

PSYC 4390 - Personality Science

PSYC 4400 - Principles of Psychological Testing

PSYC 4500 - Introduction to Clinical Psychology

PSYC 4730 - Psychology and Law

PSYC 4740 - Advanced Social Psychology

PSYC 4760 - Child Maltreatment

PSYC 4820 - Psychology of Human Sexuality

PSYC 4830 - Senior Thesis

PSYC 4850 - Field Work in Psychology

PSYC 4855 - Undergraduate Research in Psychology

PSYC 4860 - Seminar

PSYC 4960 - Service-Learning in Psychology

PSYC 4970 - Aging Minor Internship

PSYC 5060 - Statistical Methods In Psychology

PSYC 5095 - Statistical Computation In Psychology

PSYC 5120 - Neuropsychology of Human Behavior

PSYC 5140 - Personality Science

PSYC 5180 - Advanced

Developmental Psychology

PSYC 5210 - Advanced Physiological Psychology

PSYC 5230 - Advanced Cognitive Psychology

PSYC 5240 - Cognitive Psychology Seminar

PSYC 5300 - Applied Multivariate Anlysis

PSYC 5340 - Introduction

To Clinical Supervision

PSYC 5375 - Psychology/Law Proseminar

PSYC 5380 - Theories and Techniques of Psychotherapy

PSYC 5400 - Cog-Achievement

PSYC 5410 - Assessment: Theory & Personality

PSYC 5425 - Diagnostic Interviewing

PSYC 5430 - Clinical Neuropsychological Assessment

PSYC 5450 - Clinical Practicum

PSYC 5460 - Advanced Clinical Practicum

PSYC 5470 - Evidence-based Treatments

PSYC 5500 - Developmental Psychopathology

PSYC 5510 - Adult Psycho

pathology

PSYC 5520 - Advanced Research Methods

PSYC 5530 - Professional Issues and Ethics

PSYC 5540 - Diversity Issues in Psychology

PSYC 5550 - Clinical Seminar

PSYC 5580 - Advanced Social Cognition

PSYC 5630 - Practicum in Clinical Supervision I

PSYC 5640 - Practicum in Clinical Supervision II

PSYC 5650 - Social and Affective Psychology

PSYC 5720 - Advanced Social Development

PSYC 5740 - Internship in Clinical Psychology

PSYC 5760 - Gradua

te Semina r

PSYC 5765 - Teachin g of Psycho logy

PSYC 5775 - Develo pmenta l Psycho logy Semina r

PSYC 5780 - Advanc ed Cogniti ve Develo pment

PSYC 5785 - Social Psycho logy Semina r

PSYC 5786 - Indep. Study Advanc

ed Quant.

PSYC 5787 - Indep. Study Special Psych Top

PSYC 5790 - Clerkship in Clinical Psychology

PSYC 5800 - Research in General Psychology

PSYC 5810 - Research in Psychology and Law

PSYC 5820 - Research in Social Psychology

PSYC 5830 - Research in Clinical Psychology

PSYC 5840 - Research in Developmental Psychology

PSYC 5850 - Research Cognitive Psychology

PSYC 5920 - Continuing Registration: On Campus

PSYC 5940 - Continuing Registration: Off

Campus

PSYC 5959 - Enrichment Studies

PSYC 5960 - Thesis Research

PSYC 5980 - Dissertation Research

PSYC 5990 - Internship

Rangeland Ecology and Watershed Management

REWM 2000 - Principles of

Rangel and Manage ment

REWM 2400 - Range Ecosys tems and Plants

REWM 3000 - Plant Ecophy siology/ Plant Form and Functio n

REWM 3100 - Principl es of Wildlan d Water Quality

REWM 3390 - Range Judgin g

REWM 3500 - Rangel and Plant

Ecophysiology

REWM 4000 - Poisonous Plants and Plant Toxins

REWM 4051 - Environmental Politics

REWM 4052 - Federal Land Politics

REWM 4100 - Nutritional Ecological Management of Range Herbivores

REWM 4103 - Range and Ranch Recreation

REWM 4150 - Behavior Modification for Production of Grazing Herbivores

REWM 4200 - Reclamation of Drastically Disturbed Lands

REWM 4285 - Wildland Hydrology

REWM 4300 - Grass Taxonomy

REWM 4330 - Rangeland Ecosystem Assessment

and Monitor ing

REWM 4340 - Reclam ation Techni ques Field Trip

REWM 4440 - Applied Fire Ecolog y

REWM 4500 - Rainfall -Runoff Modelin g

REWM 4530 - Semina r

REWM 4540 - Proble ms

REWM 4550 - Interns hip in:

REWM 4580 -

Rangeland Restoration Ecology

REWM 4600 - Drone-Based Remote Sensing

REWM 4700 - Wildland Watershed Management

REWM 4710 - Watershed Water Quality Management

REWM 4750 - Wildlife Habitat Restoration Ecology

REWM 4810 -

Experiments in Restoration

REWM 4830 - Ecological Applications for Wildland Management

REWM 4850 - Rangeland Vegetation Management Techniques

REWM 4900 - Rangeland Management Planning

REWM 4990 - Undergraduate Teaching

Practicum

REWM 5000 - Range Resource Management

REWM 5100 - Nutritional Ecological Management of Range Herbivores

REWM 5103 - Range and Ranch Recreation

REWM 5150 - Behavior Modification for Production of Grazing Herbivores

REWM 5200 - Hierarchical Model for Ecolog

REWM 5250 - Water Resources Seminar

REWM 5285 - Wildland Hydrology

REWM 5300 - Grass Taxonomy

REWM 5400 - Community Ecology

REWM 5440 - Applied Fire Ecology

REWM 5500 - Rainfall-Runoff Modeling

REWM 5520 - Ecology and Management of Grasslands

REWM 5580 - Rangeland Restoration Ecology

REWM 5610 - Quantitative Modeling in Landscape Ecology

REWM 5640 - Investigation

REWM 5680 - Landsc

ape Genetics

REWM 5710 - Watershed Water Quality Management

REWM 5750 - Wildlife Habitat Restoration Ecology

REWM 5810 - Experiments in Restoration

REWM 5830 - Wildlife Habitat Ecology

REWM 5900 - Practicum in College Teaching

REWM 5920 - Continuing Registration: On Campus

REWM 5940 - Continuing Registration: Off Campus

REWM 5960 - Thesis Research

REWM 5980 - Dissertation Research

Religious Studies

RELI 1000 - Introduction to

Religion

RELI 1101 - First-Year Seminar

RELI 2030 - Violence and Resistance

RELI 2040 - Religions of the Middle East: Judaism, Christianity and Islam

RELI 2050 - Religions of Asia

RELI 2070 - Gender and Religion

RELI 2080 - Holocaust

RELI 2110 - Introduction to the Old Testament

RELI 2150 - New Testament Survey

RELI 2175 - The Life and Teaching of Jesus

RELI 2200 - Contemporary American Religion

RELI 2225 - History of Christianity

RELI 2250 - American Religious History I (To 1865)

RELI 2252 - American Religious History II (1865-1945)

RELI 2315 - History of Non-Western Religions

RELI 2320 - History of Islam

RELI 2330 - Islam in the Modern World

RELI 2335 -

Buddhism

RELI 2410 - Varieties of Non-Belief in the Western World

RELI 2450 - Traditional African Religion

RELI 2490 - Special Topics in Religion

RELI 3090 - Middle East and Israel in Film

RELI 3110 - Bible and Archaeology

RELI 3200 - Religion and American Culture

RELI 3220 - History of the Modern Middle East

RELI 3225 - Apocalypse: The History of the End

RELI 3230 - Early Christianity

RELI 3235 - Medieval Christianity

RELI 3240 - Reformation and Enlight

enment Christianity

RELI 3245 - Christianity Since Darwin

RELI 3250 - Tibetan Buddhism

RELI 3260 - African Spirits in the New World

RELI 3280 - Tibetan Buddhism

RELI 3320 - Eastern Thought

RELI 3340 - Mysticism, Yoga, and Enlight

enment in the East

RELI 3350 - Religion and Globalization in India

RELI 3400 - Religion in the American West

RELI 4000 - Theories of Religion

RELI 4090 - Film and Religion

RELI 4100 - African American Religious Culture

RELI 4113 - Medieval Religious Dissent

RELI 4160 - Moses, Jesus, and Muhammad

RELI 4174 - Judaism from Ezra to Jesus

RELI 4175 - Judaism at the Dawn of Christianity

RELI 4190 - Women and the Bible

RELI 4260 - Judaism in the

Modern World

RELI 4270 - Buddhist Ethics

RELI 4310 - Seminar in Asian Religions

RELI 4335 - Women and Islam

RELI 4500 - Special Topics in Religious Studies

RELI 4635 - Religious Studies Departmental Honors

RELI 4900 - Indepe

ndent Study in Religion

RELI 4930 - Thesis

RELI 4960 - International Field Course

RELI 4961 - Domestic Field Course

Renewable Resources

RNEW 1000 - Wyoming Wildlands: Science and Stewardship

RNEW 2100 - Forest

Management

RNEW 3000 - Tropical Ecology

RNEW 4400 - Invasive Plant Ecology

RNEW 4775 - Forest Ecology

RNEW 4800 - Undergraduate Research

RNEW 4990 - Topics in:

RNEW 5200 - Spatial Analysis of Watersheds and

Ecosystems

RNEW 5400 - Invasive Plant Ecology

RNEW 5500 - Stable Isotope Ecology

RNEW 5540 - Shrubland Ecology

RNEW 5545 - Shrub Ecology Trip

RNEW 5990 - Topics In:

Secondary Education

EDSE 1101 - First-

Year Seminar

EDSE 3010 - Contemporary Philosophies in Technical Education

EDSE 3020 - Facilities and Advisory Management

EDSE 3030 - Construction Technology

EDSE 3040 - Energy and Power Technology

EDSE 3050 - Communications

Technology

EDSE 3270 - Subject Matter Specific Methods I: Secondary English Education

EDSE 3271 - Subject Matter Specific Methods I: Secondary Mathematics Education

EDSE 3272 - Subject Matter Specific Methods I: Art Education K-12

EDSE 3273 - Subject Matter Specific Methods I: Secondary Social Studies Education

EDSE 3275 - Subject Matter Specific Methods I: Secondary Science Education

EDSE 3276 - Subject Matter Specific Methods I: Secondary Modern Language Education

EDSE 3277 - Tech Ed Methods I: Intro

EDSE 3278 - Subject Matter Specific Methods I: Secondary Agriculture Education

EDSE 3540 - Teaching Reading and Study Strategies in the Content Areas

EDSE 4070 - Educational Trends in (TOPIC)

EDSE 4270 - Subject Matter Specific Methods II: Secondary English Education

EDSE 4271 - Subject Matter Specific Methods II: Secondary Mathematics Education

EDSE 4272 - Subject Matter Specific Methods II: Art Education K-12

EDSE 4273 - Subject Matter

Specific Methods II: Secondary Social Studies Education

EDSE 4274 - Subject Matter Specific Methods II: Music Education K-12

EDSE 4275 - Subject Matter Specific Methods II: Secondary Science Education

EDSE 4276 - Subject Matter Specific Method

s II: Secondary Modern Language Education

EDSE 4277 - Subject Matter Specific Methods II: Secondary Technology Education

EDSE 4278 - Subject Matter Specific Methods II: Secondary Agriculture Education

EDSE 4280 - Subject Matter Specifi

c Methods: Computer Science

EDSE 4500 - Residency in Teaching

EDSE 4550 - Residency Applications and Synthesis

EDSE 4900 - Best Practices Active Learning

EDSE 4975 - Independent Study

EDSE 5900 - Best Practices

Active Learning

Science Education

ESCI 5100 - Science Education Research Colloquium

ESCI 5200 - Contemporary Science Education Research

ESCI 5250 - Cognition and Learning in Science and Math Education

ESCI 5300 -

Research in Science Education I

ESCI 5350 - Research in Science Education II

ESCI 5600 - History and Philosophy of Science and Mathematics Education

ESCI 5610 - Informal Science Learning Environment

ESCI 5630 - Science Teacher Ed & K12 Profess

ional Develo pment

Social Work

SOWK 2000 - Introdu ction to Social Work

SOWK 2050 - Women and Leader ship

SOWK 3530 - Human Behavi or and the Social Environ ment I

SOWK 3540 - Human Behavi or and Social Environ ment II

SOWK 3630 - General ist

Social Work Practice I, Individual and Families

SOWK 3640 - Generalist Social Work Practice II, Groups

SOWK 3645 - Ethical Social Work Practice

SOWK 3650 - Generalist Social Work Practice III; Communities and Organizations

SOWK 4020 - Disabili

ty Studies Theory and Practic e

SOWK 4060 - Diversit y and Differen ce in Social Work Practic e

SOWK 4083 - Social Work and Health Care

SOWK 4084 - Substa nce Use and Addicti ons

SOWK 4480 - Introdu ction to Aging Service s

SOWK 4550 - Child Welfare Services

SOWK 4560 - Social Work Research

SOWK 4570 - Research-Informed Practice

SOWK 4780 - Seminar:

SOWK 4850 - Human Rights, Social Justice and Social Policy

SOWK 4881 - International Social Welfare

and Social Develo pment

SOWK 4980 - Indepe ndent Study

SOWK 4990 - Social Work Practic um

SOWK 4991 - BSW Field Semina r I

SOWK 4992 - BSW Field Semina r II

SOWK 5000 - Topics: Social Work

SOWK 5020 - Disabili ty Studies Theory

and Practice

SOWK 5081 - Assessment and the DSM

SOWK 5084 - Substance Use and Addictions

SOWK 5100 - Principles and Philosophy of Social Work

SOWK 5115 - Social Welfare Policy: Human Rights and Social Justice

SOWK 5120 - MSW Founda

tion Field Semina r I

SOWK 5121 - MSW Founda tion Field Semina r II

SOWK 5200 - Human Beh & Soc Environ mt I

SOWK 5210 - Human Behavi or and the Social Environ ment II

SOWK 5300 - SW General ist Practic e I

SOWK 5310 - General ist

Social Work Practice II

SOWK 5400 - Social Work Generalist Research Methods

SOWK 5450 - Field Practicum I

SOWK 5460 - Field Practicum II

SOWK 5495 - Social Work Research and Analysis

SOWK 5499 - Advanced Generalist Social

Justice Practice

SOWK 5500 - Advanced Policy: Advocacy and Social Action

SOWK 5550 - Child Welfare Services

SOWK 5600 - Advanced Generalist Practice

SOWK 5700 - Advanced Theories and Practice with Children and Families

SOWK 5705 - Advanced Generalist Practice 3

SOWK 5720 - Leadership Prac in Comm & Orgs

SOWK 5750 - Applied Research: Practice Evaluation

SOWK 5755 - MSW Portfolio

SOWK 5795 - Rural Health Care Seminar

SOWK 5800 - Advanc

ed Seminar in Social Work

SOWK 5810 - Working with Children and Families in the Schools

SOWK 5820 - School Social Work

SOWK 5850 - Advanced Field Practicum

SOWK 5855 - MSW Advanced Field Seminar I

SOWK 5856 - MSW Advanced Field

Seminar II

SOWK 5881 - International Social Welfare and Social Development

SOWK 5887 - American Indian Health

SOWK 5920 - Continuing Registration: On Campus

SOWK 5940 - Continuing Registration: Off Campus

SOWK 5960 - Thesis

Research

SOWK 5975 - Independent Study

Sociology

SOC 1000 - Sociological Principles

SOC 1100 - Social Problems and Issues

SOC 1350 - American Indians in Contemporary Society

SOC 2070 - Introductory Statistics for the Social

Sciences

SOC 2350 - Race and Ethnic Relations

SOC 2400 - Criminology

SOC 2465 - Research Methods

SOC 3000 - Social Change

SOC 3100 - Chinese Society

SOC 3110 - Self and Society

SOC 3140 - Sociology of

the Family

SOC 3150 - Collective Behavior and Social Movements

SOC 3200 - Sociology of Religion

SOC 3250 - Juvenile Delinquency

SOC 3400 - Deviant Behavior

SOC 3500 - Sociology of Gender

SOC 3550 - Medical Sociology

SOC 3605 - Sociology of Education

SOC 3640 - Social Inequality

SOC 3880 - Political Sociology

SOC 3910 - Global Sociology

SOC 3950 - Environmental Sociology

SOC 4020 - Sociology of Work

SOC 4160 - Sociology of Aging

SOC 4350 - Sociology of Law

SOC 4370 - Global Political Economy

SOC 4440 - Deviance and Social Control

SOC 4500 - Sociology of Organizations

SOC 4590 - Green Criminology

SOC 4650 - Urban Sociology

SOC 4705 - Terrorism

SOC 4715 - Sociological Theory

SOC 4750 - Sociology Internship

SOC 4805 - Global Population Issues

SOC 4850 - Conference

SOC 4860 - Social Inequality, Crime, Criminal Justice and the Law

SOC 4890 - Special Topics in

SOC 4900 - Seminar

SOC 5000 - Advanced Sociological Theory

SOC 5020 - Sociology of Work

SOC 5050 - Social Inequality

SOC 5070 - Statistical Methods for the Social Sciences

SOC 5100 - Advanced Social Research

Methods

SOC 5140 - The Family

SOC 5160 - Sociology of Aging

SOC 5200 - Conference

SOC 5250 - Seminar

SOC 5350 - Sociology of Law

SOC 5440 - Deviance and Social Control

SOC 5540 - Stratification and Inequality

SOC 5650 - Urban Sociology

SOC 5715 - Sociological Theory

SOC 5805 - Global Population Issues

SOC 5920 - Continuing Registration: On Campus

SOC 5940 - Continuing Registration: Off Campus

SOC 5959 - Enrichment Studies

SOC 5960 - Thesis Research

SOC 5990 - Internship

Soil Science

SOIL 2010 - Introduction to Soil Science

SOIL 3000 - Irrigated Agriculture

SOIL 3130 - Environmental Quality

SOIL 4100 - Soil Physics

SOIL 4105 - Soil Physics

Laboratory

SOIL 4120 - Genesis, Morphology and Classification of Soils

SOIL 4130 - Chemistry of the Soil Environment

SOIL 4140 - Soil Microbiology

SOIL 4150 - Forest and Range Soils

SOIL 4160 - Soil Health and Nutrient Cycling

SOIL 4540 - Microbial Diversity and Ecology

SOIL 4565 - Research: Soil Science

SOIL 5105 - Soil Physics Laboratory

SOIL 5110 - Modeling Water and Chemical Transport in Vadose Zone and Groundwater Systems

SOIL 5130 - Chemistry of the Soil

Environment

SOIL 5140 - Soil Microbiology

SOIL 5150 - Forest and Range Soils

SOIL 5160 - Soil Health and Nutrient Cycling

SOIL 5540 - Microbial Diversity and Ecology

SOIL 5565 - Research in Soil Science

SOIL 5590 - Special

Topics in Soil Science

SOIL 5900 - Practicum in College Teaching

SOIL 5920 - Continuing Registration: On Campus

SOIL 5940 - Continuing Registration: Off Campus

SOIL 5959 - Enrichment Studies

SOIL 5980 - Dissertation Research

Spanish

SPAN 1010 - First Year Spanish I

SPAN 1020 - First Year Spanish II

SPAN 1101 - First-Year Seminar

SPAN 2030 - Second Year Spanish I

SPAN 2040 - Second Year Spanish II

SPAN 2140 - Introduction to Reading

SPAN 3030 - Spanish for Heritage Speakers

SPAN 3040 - Spanish Conversation

SPAN 3050 - Third Year Spanish I

SPAN 3060 - Third Year Spanish II

SPAN 3070 - Intensive Spanish Abroad

SPAN 3080 - Spanish Language in

the USA

SPAN 3095 - Introduction to Spanish Translation

SPAN 3100 - Survey of Spanish Literature

SPAN 3110 - Survey of Contemporary Spanish Literature

SPAN 3120 - Survey of Spanish American Literature

SPAN 3140 - Introduction to Literature

SPAN 3200 - Spanish Culture and Civilization

SPAN 3220 - Spanish-American Cultures in Context

SPAN 3300 - Introduction to Hispanic Linguistics

SPAN 3990 - Independent Study

SPAN 4070 - Spanis

h Variation and Change

SPAN 4080 - Spanish Advanced Grammar

SPAN 4090 - Spanish Phonetics and Phonology

SPAN 4095 - Advanced Translation

SPAN 4125 - Spanish-Language Literatures of the Americas

SPAN 4130 -

Masterpieces of Spanish Renaissance Literature

SPAN 4140 - Masterpieces of Spanish Baroque Literature

SPAN 4150 - Spanish Romanticism

SPAN 4170 - Contemporary Spanish Prose

SPAN 4180 - Advanced Cultural Studies in Hispani

c Lit/Media

SPAN 4190 - 20th and 21st Century Spanish-American Texts

SPAN 4200 - Introduction to Research

SPAN 4260 - The Realist Novel in Spain

SPAN 4310 - Intro Hisp Ling

SPAN 4600 - Special Topics in Spanish

SPAN 4990 - Advanced Independent Study

SPAN 5070 - Spanish Variation and Change

SPAN 5080 - Spanish Advanced Grammar

SPAN 5090 - Spanish Phonetics and Phonology

SPAN 5095 - Advanced Translation

SPAN 5100 - Hispani

c Though t

SPAN 5110 - Peninsular Spanish Literature

SPAN 5120 - Spanish American Literature

SPAN 5130 - Masterpieces of Spanish Renaissance Literature

SPAN 5140 - Masterpieces of Spanish Baroque

Literature

SPAN 5150 - Spanish Romanticism

SPAN 5160 - Graduate Readings

SPAN 5170 - Special Problems

SPAN 5180 - Advanced Cultural Studies in Hispanic Lit/Media

SPAN 5190 - 20th and 21st Century Spanish-Americ

an Texts

SPAN 5200 - Introduction to Research

SPAN 5260 - The Realist Novel in Spain

SPAN 5900 - Practicum in College Teaching

SPAN 5920 - Continuing Registration: On Campus

SPAN 5940 - Continuing Registration: Off

Campus

SPAN 5960 - Thesis Research

SPAN 5990 - Internship

Special Education

EDEX 2000 - Collaboration and Professional Relationships

EDEX 2484 - Introduction to Special Education

EDEX 3071 - Understanding Students with

High Incidence Disabilities

EDEX 3072 - Teaching st. w/High Inc Dis

EDEX 3080 - Understanding Students with Low Incidence Disabilities

EDEX 3081 - Teaching Students with Low Incidence Disabilities

EDEX 3110 - Behavioral Supports & Interv.

EDEX 4120 - Data Analysis and IEP Development

EDEX 4355 - Assessment & Students with Disabilities

EDEX 4500 - Residency Teaching Special Ed

EDEX 4720 - Law and Students with Disabilities

EDEX 5000 - Collaboration and Professional Interdis

ciplinary Relationships

EDEX 5071 - Teaching Students with Mild and Moderate Disabilities

EDEX 5080 - Teaching Students with Severe and Low Incidence Disabilities

EDEX 5100 - Special Education Practicum I

EDEX 5110 - Positive

Behavior Support and Management

EDEX 5120 - Academic Instruction in General Education for Students with Disabilities

EDEX 5150 - Research Applications in the Classroom

EDEX 5200 - Special Education Practicum II

EDEX 5250 - Assistive Techno

logy and Transition

EDEX 5260 - Transition Planning

EDEX 5355 - Assessment

EDEX 5680 - Prescriptive Teaching Practicum

EDEX 5720 - Special Education Law

EDEX 5730 - Severe and Profound Handicaps

EDEX 5870 -

Seminar

EDEX 5959 - Enrichment Studies

Speech-Language Pathology

SPPA 1010 - Introduction to Communication Disorders

SPPA 2110 - American Sign Language I

SPPA 2120 - American Sign Language II

SPPA 2210 -

Phonetics

SPPA 3160 - Speech and Language Development

SPPA 3265 - Anatomy and Physiology of Speech, Swallowing and Hearing

SPPA 4000 - Workshop in Speech Pathology/Audiology

SPPA 4070 - Deaf Studies

SPPA 4130 - Advanced ASL

SPPA 4140 - Undergraduate Teaching Assistant

SPPA 4150 - Aural Rehabilitation

SPPA 4200 - Audiology Internship

SPPA 4240 - Speech and Language Disorders Across the Lifespan

SPPA 4250 - Clinical Methods

SPPA 4340 - Basic

Audiology

SPPA 4380 - Neurological Basis of Communication

SPPA 4890 - Independent Study

SPPA 5000 - Seminar in Communication Disorders

SPPA 5020 - Phonological Assessment and Intervention

SPPA 5030 - Clinical Practicum

SPPA 5100 - Motor Speech Disorders

SPPA 5110 - Craniofacial Disorders

SPPA 5120 - Stuttering

SPPA 5130 - Adult Neurogenic Disorders

SPPA 5140 - EBP and Evaluation Procedures in Communication Disorders

SPPA 5210 - Augme

ntative and Alternative Communication

SPPA 5220 - Voice Disorders

SPPA 5230 - Dysphagia

SPPA 5270 - Educational Practicum

SPPA 5280 - Early Language Intervention

SPPA 5290 - Medical Practicum

SPPA 5330 - School-Age

Language Intervention

SPPA 5380 - Professional Practice

SPPA 5500 - Topics in Communication Disorders

SPPA 5750 - Research Methods in Speech Pathology and Audiology

SPPA 5890 - Independent Study

SPPA 5900 - Practicum in

College Teaching

SPPA 5920 - Continuing Registration: On Campus

SPPA 5940 - Continuing Registration: Off Campus

SPPA 5959 - Enrichment Studies

SPPA 5960 - Thesis Research

SPPA 5961 - Graduate Projects

SPPA 5990 - Internship

Statistics

STAT 1101 - First-Year Seminar

STAT 2000 - Statistics and the World

STAT 2050 - Fundamentals of Statistics

STAT 2070 - Introductory Statistics for the Social Sciences

STAT 2110 - Statisti

cal Methods for Business and Management Science

STAT 3050 - Statistical Methods

STAT 4005 - Data Wrangling

STAT 4015 - Regression Analysis

STAT 4025 - Design and Analysis of Experiments I

STAT 4045 - Categorical Data

Analysis

STAT 4070 - Causal Models

STAT 4115 - Time Series Analysis and Forecasting

STAT 4155 - Fundamentals of Sampling

STAT 4220 - Basic Engineering Statistics

STAT 4240 - Data Mining

STAT 4255 - Mathematical Theory of

Probability

STAT 4265 - Introduction to the Theory of Statistics

STAT 4270 - Applied Bayesian Statistics

STAT 4280 - Models for Hierarchical Data

STAT 4300 - Applied Multivariate Analysis

STAT 4350 - Survey Construction and

Analysis

STAT 4360 - Spatial Statistics

STAT 4370 - Survival Analysis

STAT 4460 - Statistical Software

STAT 4870 - Senior Thesis

STAT 4880 - Problems in Statistics

STAT 5005 - Data Wrangling

STAT 5015 - Regres

sion Analysis

STAT 5025 - Design and Analysis of Experiments I

STAT 5045 - Categorical Data Analysis

STAT 5050 - Statistical Methods for the Biological Science

STAT 5055 - Statistical Methods for the Biological Sciences II

STAT 5070 - Statistical Methods for the Social Sciences

STAT 5080 - Statistical Methods for the Agricultural and Natural Resource Sciences

STAT 5115 - Time Series Analysis and Forecasting

STAT 5155 - Fundamentals of Sampling

STAT 5185 - Analysis of Data

STAT 5210 - Advanced Regression

STAT 5220 - Advanced Design

STAT 5230 - Statistic Methods III

STAT 5240 - Data Mining

STAT 5255 - Mathematical Theory of Probability

STAT 5265 - Introduction to

the Theory of Statistics

STAT 5270 - Applied Bayesian Statistics

STAT 5280 - Models for Hierarchical Data

STAT 5300 - Applied Multivariate Analysis

STAT 5350 - Survey Construction and Analysis

STAT 5360 - Spatial Statistics

STAT 5370 - Survival Analysis

STAT 5380 - Bayesian Data Analysis

STAT 5470 - Data Analysis

STAT 5490 - Statistical Consulting

STAT 5510 - Distribution Theory

STAT 5520 - Inference I

STAT 5530 - Inference II

STAT 5540 - Large Sample Theory

STAT 5615 - Time Series Analysis II

STAT 5620 - Theory of Linear Models

STAT 5630 - Multivariate Analysis

STAT 5650 - Theory of Sampling

STAT 5660 - Computationally Intensive Methods in

Statistics

STAT 5670 - Mixed Models

STAT 5680 - Advanced Bayesian Statistics

STAT 5810 - Seminar

STAT 5820 - Teaching of Statistics1

STAT 5880 - Advanced Problems

STAT 5920 - Continuing Registration: On

Campus

STAT 5940 - Continuing Registration: Off Campus

STAT 5959 - Enrichment Studies

STAT 5960 - Thesis Research

STAT 5980 - Dissertation Research

STAT 5990 - Internship

STEP

STEP 1000 - Culture and

Community

STEP 1060 - College Athletics and Society

STEP 1101 - First-Year Seminar

STEP 1102 - Step Into College

STEP 1105 - Academic Success Skills

STEP 3000 - Leadership in SI

STEP 3102 - Non-Traditional Student's Guide

to College and Career

STEP 4000 - Special Problems in Academic Leadership: Motivation & Mindset

UWYO 4900 - UWYO 4900 | McNair Research and Graduate School Prep

Theatre and Dance

THEA 1000 - Introduction to Theatre, TV & Film

THEA 1021 - Academic and Professional Issues in Dance

THEA 1040 - Production Crew I

THEA 1050 - Beginning Drawing and Painting

THEA 1100 - Acting I

THEA 1101 - First-Year Seminar

THEA 1200 - Introduction to Design

THEA 1300 -

Musical Theatre Workshop: Voice and Acting

THEA 1360 - Fundamentals of Music for Theatre Majors

THEA 1405 - Movement Fundamentals & Conditioning

THEA 1410 - Beginning Ballet I

THEA 1420 - Beginning Ballet II

THEA 1430 - Beginning

Modern I

THEA 1440 - Beginning Modern II

THEA 1450 - Beginning Tap Dance I

THEA 1470 - Men's Technique

THEA 1480 - Beginning Jazz Dance I

THEA 2005 - Creative Drama in the Classroom

THEA 2010 - Theatrical Backgrounds Drama I

THEA 2020 - Theatrical Backgrounds Drama II

THEA 2030 - Beginning Playwriting

THEA 2040 - Production Crew II

THEA 2050 - Theatre Practice

THEA 2060 - Introduction to Performance Studies

THEA 2100 - Acting II

THEA 2145 - Costum

e Constr uction

THEA 2150 - Draftin g for Design

THEA 2155 - Movem ent for Actors I

THEA 2160 - Stage Makeup

THEA 2170 - Voice and Speech for the Actor

THEA 2180 - Costum e Crafts

THEA 2185 - Period Style for Theatre I

THEA 2200 -

**Backgr
ounds
of
Dance**

**THEA
2215 -
Period
Style
for
Theatre
II**

**THEA
2220 -
Stagecr
aft**

**THEA
2230 -
Stage
Lightin
g I**

**THEA
2250 -
Comput
er
Aided
Design
I**

**THEA
2300 -
MT
Worksh
op:
Scene
Study**

**THEA
2320 -
Scenic
Paintin**

g for the Theatre

THEA 2340 - Musical Theatre Voice Lesson

THEA 2390 - Sound Design for Theatre and Dance

THEA 2400 - Vertical Dance I

THEA 2410 - Intermediate Ballet I

THEA 2415 - Pointe I

THEA 2420 - Intermediate Ballet II

THEA 2425 -

Pointe II

THEA 2430 - Intermediate Modern I

THEA 2435 - Repertory

THEA 2440 - Intermediate Modern II

THEA 2444 - Stage Management

THEA 2445 - Repertory II

THEA 2450 - Intermediate Tap I

THEA 2480 - Intermediate Jazz I

THEA 3000 - Special Topics in Theatre

THEA 3021 - Foundations of Dance Pedagogy

THEA 3100 - Kinesiology for Dance

THEA 3160 - Advanced Stage Makeup

THEA 3300 - MT Workshop: Production

THEA 3400 - Vertical Dance II

THEA 3410 -

Adv/Intermediate Ballet I

THEA 3420 - Adv/Intermediate Ballet II

THEA 3430 - Adv/Intermediate Modern I

THEA 3435 - Repertory: Modern and Improvization

THEA 3440 - Adv/Intermediate Modern II

THEA 3480 - Adv/Intermediate Jazz I

THEA 3490 - Advanced Jazz I

THEA 3501 - Screen Writing and Television Writing

THEA 3600 - Teaching Theatre in Elementary or Secondary School

THEA 3650 - Theatre for Young Audiences: Plays and Production

THEA 3710 - Acting III

THEA 3740 - Acting Styles

THEA 3750 - Acting for the Camera

THEA 3805 - Stage Lighting 2

THEA 3810 - Scene Design I

THEA 3820 - Costume Design I

THEA 3830 - Video Design for Live Theatre

THEA 3840 - Historical Costumes from the

Skin Out

THEA 3850 - Design and Technology Seminar

THEA 3890 - Lighting CADD

THEA 3910 - 20th Century Theatre Diversity

THEA 3950 - Advanced Speech and Dialects

THEA 4001 - Historical Dance

THEA 4002 - Art Entrepr

eneurs hip Semina r

THEA 4010 - Advanc ed Ballet

THEA 4030 - Advanc ed Modern Dance

THEA 4060 - English /Theatr e Studies in

THEA 4200 - Dance History II

THEA 4230 - Greek Traged y

THEA 4250 - Beginni ng Dance

Composition

THEA 4260 - Intermediate Dance Composition

THEA 4330 - History of American Musical Theatre

THEA 4500 - Advanced Playwriting

THEA 4600 - Teaching Theatre Artists: Service Learning in the Community

THEA 4700 - Professional Semina

r in Dance

THEA 4710 - Acting IV

THEA 4720 - Auditioning and Professional Issues

THEA 4730 - Movement for Actors II

THEA 4770 - Summer Theatre

THEA 4800 - Stage Lighting- Production

THEA 4810 - Scene Design II

THEA 4820 - Directing I

THEA 4830 - Directing II

THEA 4845 - Costume Fit and Alteration

THEA 4850 - Costume Design II

THEA 4880 - Advanced Theatre Practice

THEA 4930 - Theatre History I

THEA 4940 - Theatre History II

THEA 4950 - Senior Thesis

THEA 4960 - Senior Project

THEA 4975 - Theatre /Dance Internship

THEA 4990 - Research in Theatre

University of Wyoming

C 1 - Communication 1

C 2 - Communication 2

C 3 - Communication 3

D - - Diversity

FYS or USP Elective - - Any 3-credit hour of FYS or 3-credit hours of USP electives

FYS- First Year - Seminar

G - - Global Awareness

GRAD 5150 - Special Topics in ____:

H - - Human Culture (1)

H - - Human Culture (2)

PN - - Physical and Natural World (1)

PN - - Physical and Natural World (2)

Q - - Quantitative Reasoning

UWYO 1000 - IC for Undeclared Students

UWYO 1010 - Veteran Transition I: Hidden Curriculum - Hidden Culture

UWYO 1019 - UWYO Saddle Up

UWYO 1050 - Student-Athlete Academic Success

UWYO 1060 - College Athletics and Society

UWYO 1101 - First-Year Seminar

UWYO 1205 - Student Success Services First Year Seminar

UWYO 1450 - Critical Reflection in Intellectual Communities

UWYO 2300 - Veterans Critical Thinking Initiative

UWYO 3000 - Student Leadership in Supplemental Instruction

UWYO 3010 - Student-Athlete Leadership Skills

UWYO 3050 - Student-Athlete Career Prep

UWYO 3600 - Veterans: Campus-To-Career

UWYO 4000 - Study Abroad

UWYO 4101 - BGS Capstone Design

UWYO 4600 - Veteran Issues in Higher Ed

UWYO 4800 - McNair Research Design

UWYO 4965 - Directed Studies /Research Problems

V - - U.S. & WY Constitution

Wyoming Institute for Disabilities

WIND 2100 - Introduction to Disability Studies

WIND 2400 - Gender and Disability

WIND 2490 - Special Topics

WIND 3150 - Literature and Medicine

WIND 4020 - Disability Studies Theory and Practice

WIND 4050 - Independent Study

WIND 4100 - Global Disability Studies

WIND 4200 - Diverse Minds

WIND 4300 - Transnational Disability Studies

WIND 4500 - Practicum

WIND 4600 - Special Topics

WIND 5020 - Disability Studies Theory and

Practice

WIND 5050 - Independent Study

WIND 5200 - Diverse Minds

WIND 5300 - Transnational Disability Studies

WIND 5600 - Special Topics

Zoology and Physiology

ZOO 1101 - First-Year Seminar

ZOO 2450 - Fish

and Wildlife Management in the Anthropocene

ZOO 3010 - Vertebrate Anatomy, Embryology, and Histology

ZOO 3115 - Human Systems Physiology

ZOO 3600 - Principles of Animal Behavior

ZOO 4100 - Scientific Communication

ZOO 4101 - Scientific Communication Lab

ZOO 4110 - HIV/AIDS: The Disease and the Dilemma

ZOO 4125 - Integrative Physiology

ZOO 4190 - Comparative Environmental Physiology

ZOO 4195 - Comparative Environmental Physiology Lab

ZOO 4200 - Applied Principles of Science Communication

ZOO 4235 - Marine Biology

ZOO 4280 - Introduction to Neuroscience

ZOO 4295 - Neurodevelopment

ZOO 4300 - Wildlife Ecology and Management

ZOO 4310 - Fisheries Management

ZOO 4330 - Ichthyology

ZOO 4340 - Developmental Biology and Embryology

ZOO 4350 - Ornithology

ZOO 4370 - Mammalogy

ZOO 4380 - Herpetology

ZOO 4400 - Population Ecology

ZOO 4415 - Behavioral Ecology

ZOO 4420 - Conservation Biology

ZOO 4430 - Limnology Laboratory

ZOO 4440 - Limnology

ZOO 4530 - R Introduction for Wildlife Ecology

ZOO 4540 - Invertebrate Zoology

ZOO 4650 - Tropical Field Ecology Ecuador

ZOO 4735 - Advanced Topics in Physiology

ZOO 4736 - Mechanisms of Hormone Action

ZOO 4737 - Mammalian Genomics

ZOO 4740 - Fish Culture and Nutrition

ZOO 4900 - Problems

ZOO 4970 - Internship in Wildlife Management

ZOO 4971 - Internship in Zoology and Physiology

ZOO 4975 - Practicum in Laboratory Instruction

ZOO 5050 - Statistical Methods for the Biological Science

ZOO 5060 - Fundamental Concepts in Evolution

ZOO 5100 - Structure and Function of the

Nervous System

ZOO 5190 - Comparative Environmental Physiology

ZOO 5195 - Comparative Environmental Physiology Lab

ZOO 5235 - Marine Biology

ZOO 5270 - Writing and Reviewing Science

ZOO 5280 - Introduction to Neuroscience

ZOO 5290 - Advanced Approaches to SciComm

ZOO 5295 - Neurodevelopment

ZOO 5300 - Wildlife Ecology and Management

ZOO 5310 - Fisheries Management

ZOO 5330 - Ichthyology

ZOO 5340 - Developmental Biology and Embryology

ZOO 5350 - Ornithology

ZOO 5370 - Mammalogy

ZOO 5380 - Herpetology

ZOO 5400 - Population Ecology

ZOO 5405 - Winter Ecology of the Yellowstone Ecosystem

ZOO 5415 - Behavioral Ecology

ZOO 5420 - Ecological Inquiry

ZOO 5430 - Ecology of the Greater Yellowstone Ecosystem

ZOO 5500 - Quantitative Analyses of Field Data

ZOO 5520 - Habitat Selection

ZOO 5530 - R Introduction for Wildlife Ecology

ZOO 5540 - Invertebrate Zoology

ZOO 5600 -

Research in Physiology

ZOO 5650 - Tropical Field Ecology Ecuador

ZOO 5685 - Neurophysiology

ZOO 5690 - Advanced Animal Behavior

ZOO 5715 - Seminar in Neuroscience

ZOO 5725 - Transmission Electron Microscopy

ZOO 5735 - Advanced Topics in Physiology

ZOO 5736 - Mechanisms of Hormone Action

ZOO 5737 - Mammalian Genomics

ZOO 5740 - Biological Confocal Microscopy

ZOO 5750 - Research: Ecology

ZOO 5820 - Research in

Vertebrate Fauna

ZOO 5840 - Advanced Fisheries Management

ZOO 5890 - Graduate Seminar

ZOO 5900 - Practicum in College Teaching

ZOO 5920 - Continuing Registration: On Campus

ZOO 5930 - Network Analysis

ZOO 5940 - Continuing Registration: Off Campus

ZOO 5960 - Thesis Research

ZOO 5980 - Dissertation Research

ZOO 5990 - Internship

Organizational Leadership

ORGL 3100 - Leading Organizational Innovation & Creativ

e Plannin g

ORGL 4100 - Diversit y & Organiz ational Change

ORGL 4200 - Ethical Issues and Organiz ations

ORGL 4900 - Capsto ne: Organiz ational Leader ship in Practic e

ORGL 4960 - BAS Applied Science Interns hip

ORGL 4990 - Indepe ndent Study -

BAS Organizational Leadership Topics and Problems

Ranch Management and Agricultural Leadership

RMAL 1010 - Introduction to Ranch Management & Agricultural Leadership

RMAL 2040 - Quantitative Tools for Managing Agricult

ural Resources

RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning

RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt

RMAL 4000 - Advanced Ranch and Rangeland Proble

m Solving and Planning

RMAL 4760 - Organizational Leadership in Agriculture

RMAL 4800 - Leadership and Collaboration Strategies to Address Contemporary Challenges in Agriculture

RMAL 4970 - Agriculture Related Operations Internship

RMAL 4971 - Agency or NGO Internship

RMAL 4972 - Ranch Management Internship

RMAL 4990 - Topics: Ranching in the West

RMAL 5040 - Comprehensive Manager Development

RMAL 5060 - Technological Approaches to Ranch Management

RMAL 5990 -

Topics: Ranching in the West

English for Academic Purposes

EAP 1010 - Live, Learn, Grow I

EAP 1020 - Live, Learn, Grow II

EAP 1110 - Advanced Academic Grammar

EAP 1210 - English Composition for International

Students

EAP 1310 - Academic Listening for International Students

EAP 1410 - Academic Reading for International Students

EAP 2110 - English Oral Skills

EAP 3050 - Advanced Academic Writing for International Students

EAP 4010 - Technical Writing for International Students

EAP 4100 - Special Topics in English for Academic Purposes

EAP 5010 - Technical Writing for International Students

EAP 5100 - Special Topics in English for Academic

Purposes

Computing

COMP 2000 - Computing and Society

COMP 3000 - Basic Computing

COMP 3500 - Advanced Computing

COMP 4000 - Practicum I

COMP 4790 - Special Topics in Computing

COMP 4950 - Undergraduate Research

COMP 4975 - Independent Study

Energy and Petroleum Engineering

EPE 5010 - Subsurface Energy Storage

EPE 5020 - Petroleum and Geothermal Engineering

EPE 5030 - Exergy

EPE 5050 - Life Cycle Analysis

EPE 5110 - Energy Data Analysis using Python

EPE 5120 - Visual Analytics for the Energy Industry

EPE 5150 - Project Management in Energy Analytics

EPE 5160 - Graph Modeling for Energy Industry

EPE 5210 - Advanced Well Control

EPE 5220 -

Drilling Problems and Solutions

EPE 5230 - Managed Pressure Drilling

EPE 5255 - Advanced Drilling Engineering

EPE 5860 - Energy, Environment, and Materials

PETE 4255 - Advanced Drilling Engineering

Software Devel

opment

SDEV 2030 - Data Structures

SDEV 3000 - Foundations of Software Systems

SDEV 3011 - Introduction to Software Design

SDEV 3020 - Applied Algorithms

SDEV 3100 - User Design Experience

SDEV 3500 - Performance

and Testing

SDEV 3765 - Computer Security

SDEV 4000 - Advanced Programming for Developers

SDEV 4730 - Mobile Application Programming

SDEV 4840 - Software Engineering Enviorments